



FOR YOUTH DEVELOPMENT®
FOR HEALTHY LIVING
FOR SOCIAL RESPONSIBILITY

MAKING THE CASE TO STAKEHOLDERS

LINKING POLICY AND ENVIRONMENTAL STRATEGIES TO HEALTH OUTCOMES

YMCA OF THE USA

AUDIENCE

- Collaborations or coalitions considering policy, systems, or environmental changes to reduce the prevalence of chronic disease in their communities

QUICK SUMMARY

Scientific evidence about the need for and efficacy of policy, systems, or environmental change strategies

Explanations to help make the case for policy, systems, or environmental change strategies, whose health outcomes are not often immediate

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I. INTRODUCTION

Obesity, overweight, and chronic diseases are at epidemic levels in communities across the United States. As a response to this crisis, YMCA of the USA's Healthier Communities Initiatives—Pioneering Healthier Communities (PHC), Statewide Pioneering Healthier Communities (SPHC), and Action Communities for Health Innovation and EnVironmental ChangE (ACHIEVE)—work to facilitate collaborative engagement among community leaders to bring about positive change. These initiatives strive to create sustainable improvements in the health and well-being of community members through policy and environmental change strategies. These initiatives are supported by the Centers for Disease Control and Prevention (CDC) and the Robert Wood Johnson Foundation (RWJF). Communities that are currently involved in these initiatives have successfully made changes that have resulted in increased access to physical activity opportunities and/or increased access to healthy foods.

In a recent survey of 91 of our communities, we found that these sites have fostered 14,459 changes in their communities, affecting up to 34.3 million lives. Below are examples of these changes.

- 112 sidewalks have been designed or improved to increase physical activity options
- 71 traffic safety improvements or enhancements have been made to increase physical activity options
- 52 “Complete Streets” have opened and been made accessible to all users—bikes, pedestrians, people with disabilities, etc.
- 1,262 afterschool sites have made their snacks or meals healthier
- 767 schools have changed the food available in their vending machines or sold outside the lunch line
- 368 worksites have improved food choices available in meetings
- 1,261 afterschool sites have added or increased the amount of physical activity in their curricula
- 866 worksites have incentivized their employees to engage in physical activity or nutrition education

WHY THIS GUIDE WAS CREATED

Over the years, YMCA of the USA (Y-USA) has been asked by numerous communities for help in making the case for pursuing policy and environmental strategies to improve healthy eating and active living. Pursuing these changes can be a challenging task because their results are often not immediate. **If desired health outcomes are not immediately seen by decision makers, how do communities convey the potentially significant impact strategies can have on the long-term health and well-being of the community? What evidence can communities provide their decision makers to help demonstrate the positive health effects that can result from pursuing these strategies in their community?**

With these questions in mind, YMCA of the USA and Stanford University's Health Improvement Program at the Stanford Prevention Research Center, with funding from the Centers for Disease Control and Prevention, created **Making the Case to Stakeholders: Linking Policy and Environmental Strategies to Health Outcomes**, to demonstrate, with a handful of strategies, the connection that can be made between policy and environmental strategies and longer term outcomes. This guide was designed to assist communities to better understand potential outcomes of the policy and environmental change objectives targeting healthy eating and active living.

HOW THIS GUIDE WAS CREATED AND WHAT THIS GUIDE PROVIDES

This guide illustrates how certain strategies can lead to specific short-term, intermediate, and long-term outcomes. The strategies covered in this guide are those that have been recommended by national health authorities such as the Centers for Disease Control and Prevention, Institute of Medicine, and Robert Wood Johnson Foundation to prevent obesity in the United States, and they represent only a handful of potential strategies.

Our efforts have been to document the scientific evidence of success that is possible following successful implementation of specific strategies. When evidence of impact from policy or environmental changes was lacking from scientifically robust studies, we utilized findings from cross-sectional studies (an observation of a population at one point in time) and expert recommendations.

For example, if you are interested in promoting a policy change that supports increased participation in government-sponsored nutrition programs, the guide presents examples of strategies that assist in accomplishing this objective. The guide then lists changes over time that might result from implementing those strategies through a path diagram, ending with the ultimate potential outcome of improved health. Each illustration also includes a description of the setting in which the research occurred (e.g., community-wide, schools)

and provides highlights from the reviewed evidence as well as the references that support the presented evidence.

HOW TO USE THIS GUIDE—MAKING THE CASE TO DECISION MAKERS

When communicating with decision makers about why a specific change is important, you can walk step-by-step through the scientific evidence for the short-term, intermediate, and long-term outcomes for that strategy.

This guide can be an informative tool for communities to help educate about the expected outcomes of a specific policy or environmental change. The expected short-term, intermediate, and long-term outcomes provided in this guide are based on those found both in the scientific literature as well as from community examples. The hope is that this guide will provide evidence for leaders to use when making decisions on improving health in their own community.

“Improved health” is the ultimate outcome we are hoping to achieve, and this is reflected in each illustration. Improved health means reduced risk for chronic diseases (including obesity) and increased quality of life.

ADDITIONAL CONSIDERATIONS

It is important for users of this guide to understand that the outcomes associated with the strategies presented are POTENTIAL outcomes. The documented research is not an exhaustive list; rather, it represents a collection of promising evidence of a link between some recommended strategies and positive health outcomes. Some strategies may result in more sizable outcomes than others, but all outcomes are likely to be subject to the specific setting, culture, and demographics of the population as well as the leadership, coordination, and support in the community.

Whereas each strategy has been documented in a separate diagram to illustrate specifically related outcomes, communities are encouraged to combine as many strategies as possible to see the greatest impact on reduction of chronic disease and improved overall health.

It is also important to note that this guide is not intended to outline advocacy strategies, policy change mechanisms, or advocacy venues, nor is it an endorsement of using federal or foundation funding from Y-USA to engage in lobbying activities. Indeed, funding provided by Y-USA’s Healthier Communities Initiative to Ys and their communities cannot be used for lobbying activities. Lobbying includes three aspects: (1) expressing an opinion (support or

opposition); (2) on a piece of legislation or regulation; and (3) to a policymaker who is in a position to influence that policy.

And finally, what this document does is simply link some strategies recommended by national health authorities such as the Centers for Disease Control and Prevention, Institute of Medicine, and Robert Wood Johnson Foundation to the outcome evidence base. It is not, and should not be considered, a list of YMCA of the USA's recommended or endorsed strategies. It is a tool, in response to the needs of our communities, to link strategies with possible health outcomes so that potential long-term benefits can be part of the conversation of improving the health of our communities. For a comprehensive list of Y-USA's legislative priorities, please visit <http://www.ymca.net/for-policy-makers/>.

The literature review is current as of November 2010.

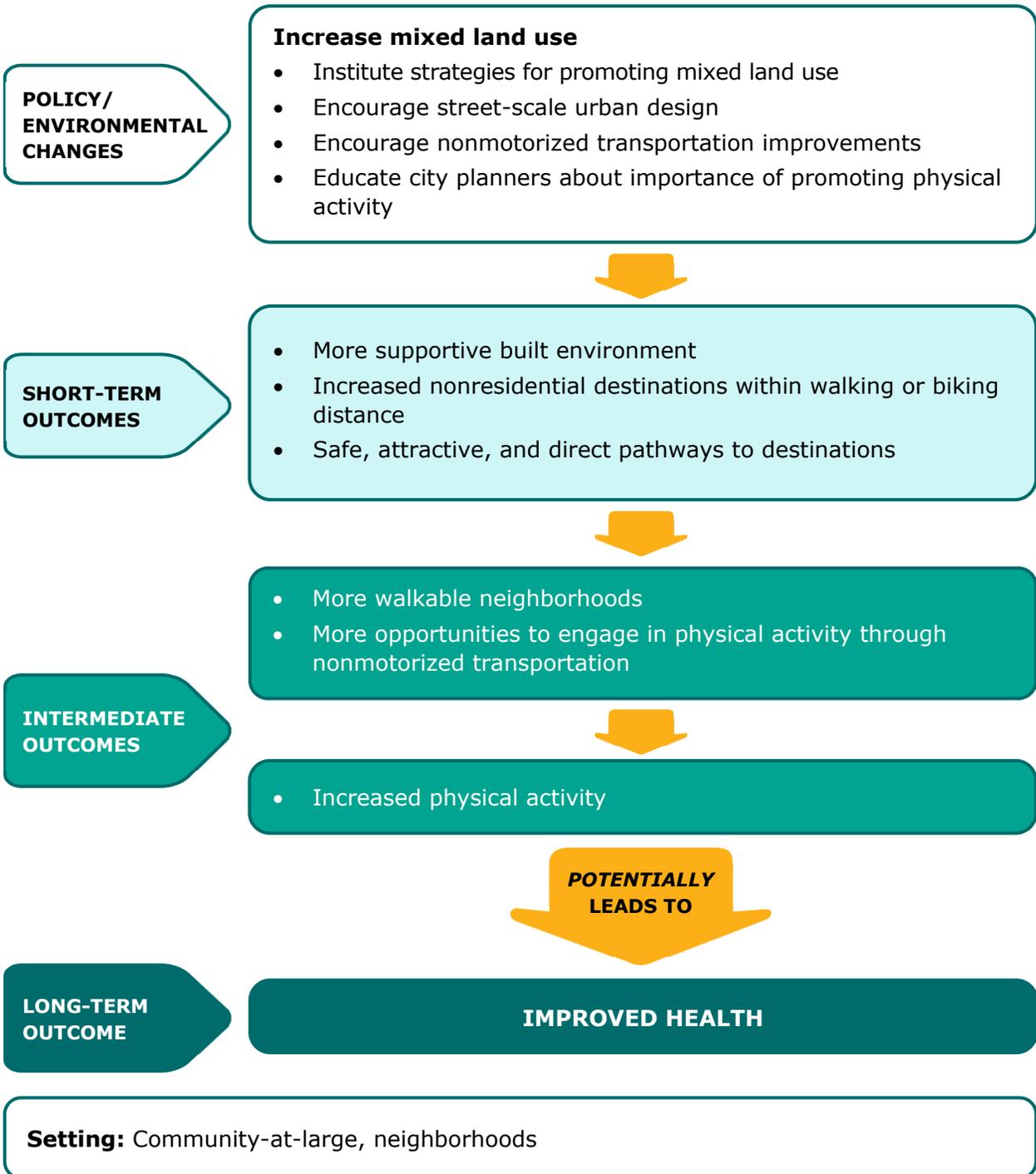
II. ACTIVE LIVING STRATEGIES



ACTIVE LIVING STRATEGY #1: INCREASE MIXED LAND USE



When people’s jobs, homes, and retail activities are located close together, they are more likely to be physically active. Mixed land use policy interventions can be effective in promoting physical activity.



ACTIVE LIVING STRATEGY #1: INCREASE MIXED LAND USE (CONTINUED)

Research has shown that residents from neighborhoods with better land use mix are more likely to achieve the recommended level of physical activity. Level of physical activity has been found to be significantly related to the number of shops and transit stops in the neighborhood, sidewalks on streets, bicycle facilities, and low-cost recreational facilities. In the Netherlands, communities that have increased mixed land use have seen an increased prevalence of walking. Consequently, **mixed land use policy interventions can be effective in promoting physical activity**. Educating county officials and city planners on the importance of increasing physical activity as a goal in city planning is an important element of this policy/environmental change.

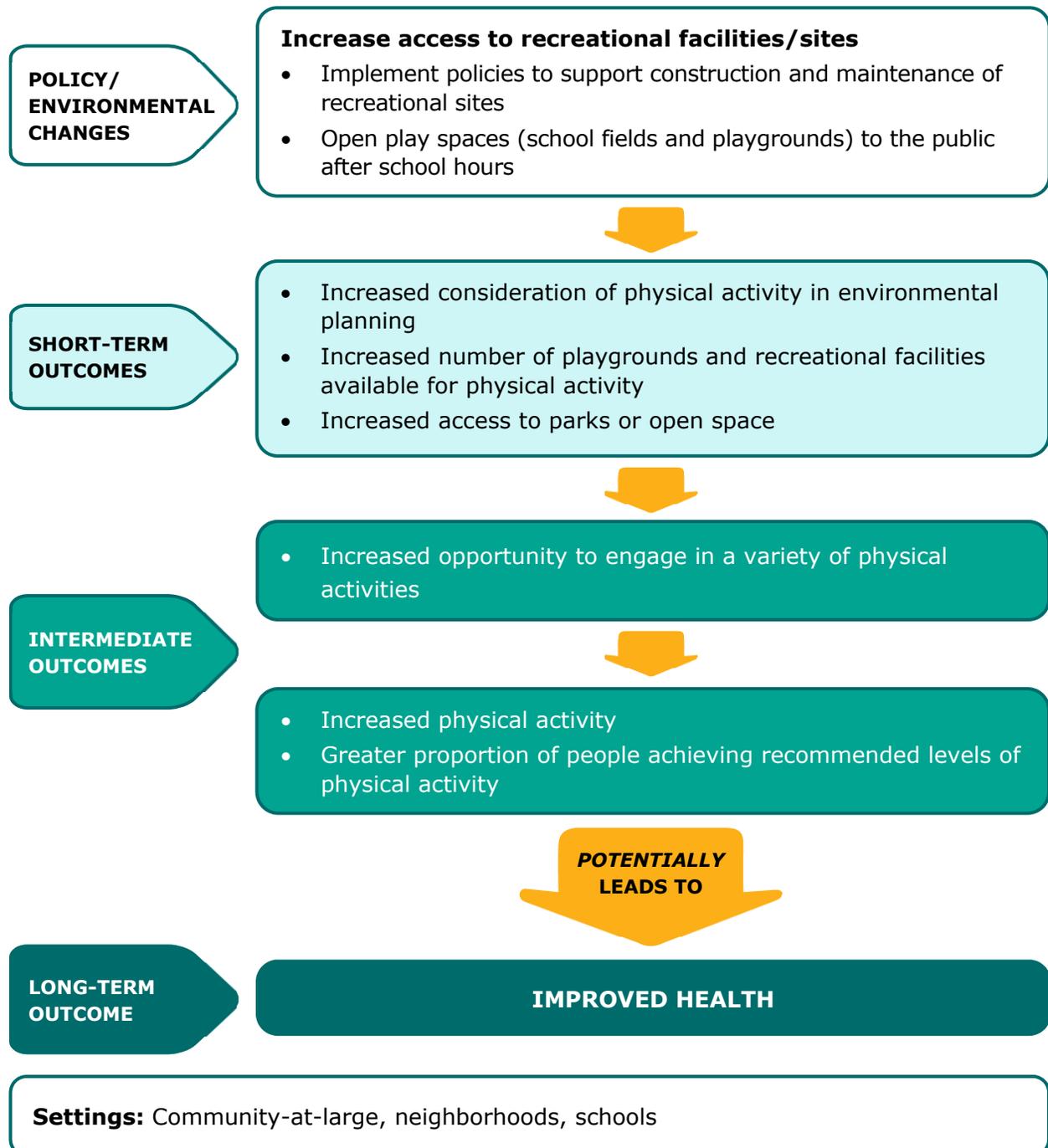
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ACTIVE LIVING STRATEGY #2: INCREASE ACCESS TO RECREATIONAL FACILITIES/SITES



When people have access to local playgrounds, pools, and trails, they are more likely to choose physical activity and less likely to be obese. Policies to support opening a recreational site (e.g., parks, playgrounds, trails) have seen an increase in the physical activity of the residents.



ACTIVE LIVING STRATEGY #2: INCREASE ACCESS TO RECREATIONAL FACILITIES/SITES (CONTINUED)

The presence of a recreational facility (e.g., footpath, club, pool) is associated with an increased likelihood of engaging in recommended levels of physical activity and decreased odds of being overweight within a community. Communities with **policies to support opening a recreational site (e.g., parks, playgrounds, trails) have seen an increase in the physical activity of the residents.** For example, opening elementary school playgrounds after school hours provides communities with opportunities for outdoor activities. An introduction of trails may also increase physical activity for people who are not habitual exercisers.

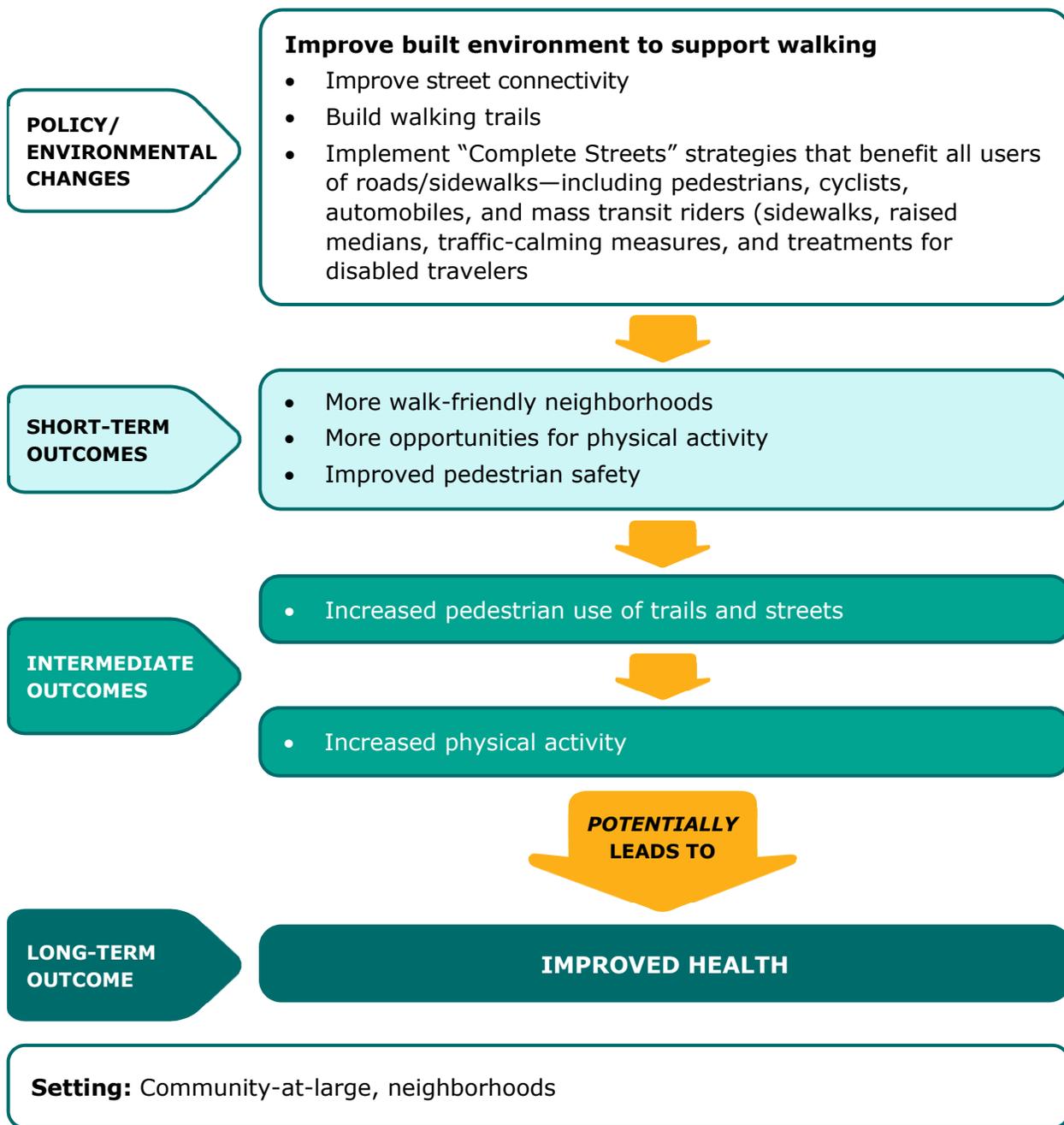
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ACTIVE LIVING STRATEGY #3: IMPROVE BUILT ENVIRONMENT TO SUPPORT WALKING



When their environment provides safe, convenient places to walk, people are likely to walk more. Constructing walking trails and improving street paths has been shown to be effective in getting people physically active.



ACTIVE LIVING STRATEGY #3: IMPROVE BUILT ENVIRONMENT TO SUPPORT WALKING (CONTINUED)

In general, constructing walking trails and improving street paths has been shown to be effective in getting people physically active, especially people who are at highest risk for inactivity. Variables such as younger age, more education, having physically active neighbors, having sidewalks or trails available, proximity to shops, and using a mall for walking were associated with increased walking behaviors. Implementing a “Complete Streets” policy has been found to increase pedestrian safety and encourage walking and biking. In summary, making improvements to the built environment to support walking has the potential to increase residents’ physical activity levels and consequently to improve health.

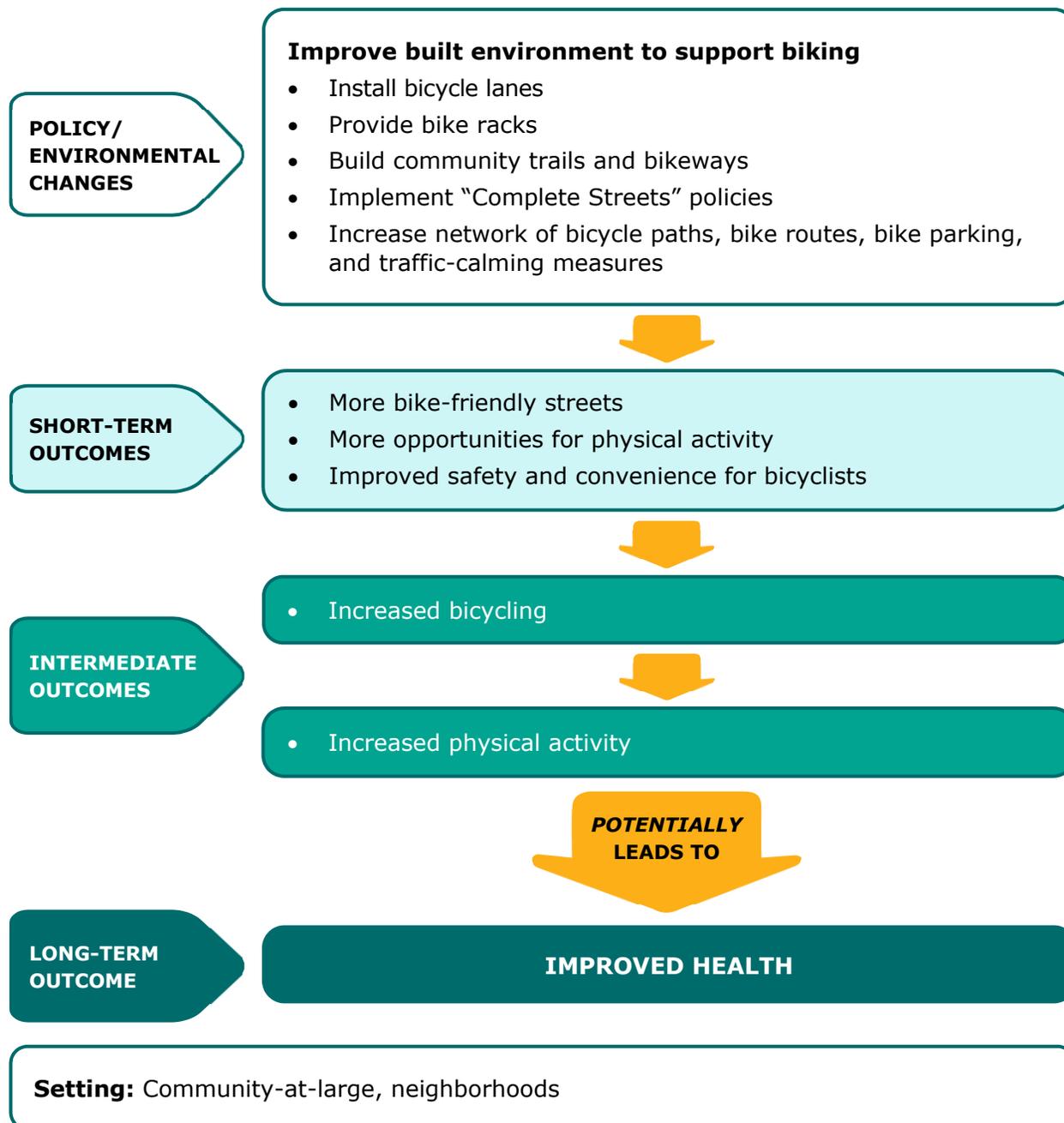
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ACTIVE LIVING STRATEGY #4: IMPROVE BUILT ENVIRONMENT TO SUPPORT BIKING



Bicycling is an accessible, convenient form of physical activity that people will choose more often when their environment provides safe, convenient places to bike. The use of bicycling has greatly increased in countries that have policies to make bicycling safer, faster, and more convenient.



ACTIVE LIVING STRATEGY #4: IMPROVE BUILT ENVIRONMENT TO SUPPORT BIKING (CONTINUED)

There is a strong relationship between bicycling infrastructure and bicycling for recreation and commuting. **The use of bicycling has greatly increased in countries that have policies to make bicycling safer, faster, and more convenient.** Installing bicycle lanes has a significant impact on bicycle traffic. In contrast, factors found to reduce the use of a bikeway include distance from bikeway, busy street barrier, and presence of hills. Installing separate bike paths provides even greater safety and convenience for cyclists. Creating a built environment that is supportive of biking has the potential to increase residents' physical activity levels and, consequently, improve health.

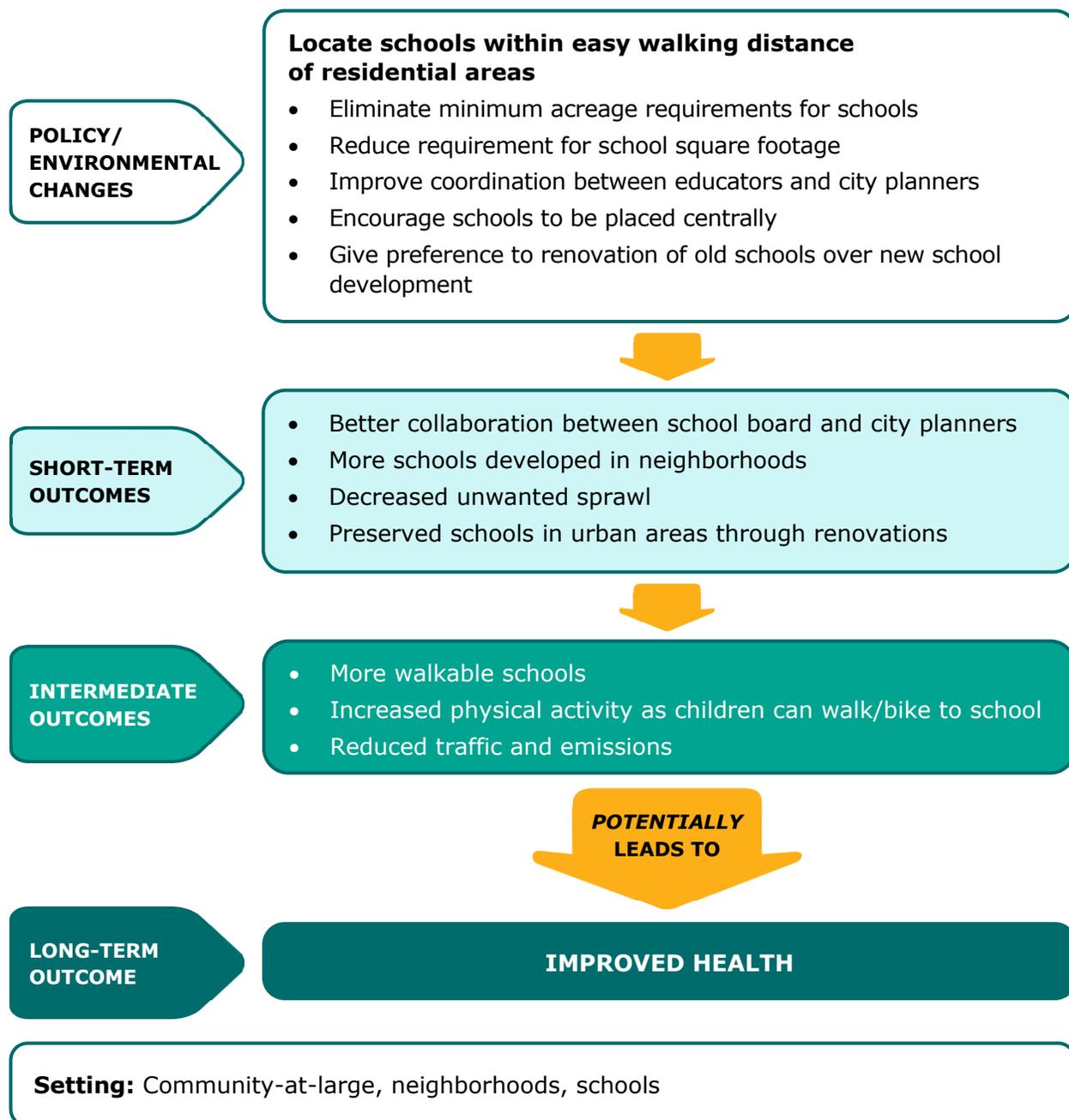
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ACTIVE LIVING STRATEGY #5: LOCATE SCHOOLS WITHIN EASY WALKING DISTANCE OF RESIDENTIAL AREAS



Neighborhood schools have many benefits to children, families, and the environment. Schools that are located in neighborhoods near residential areas are more walkable and help children stay active by walking and biking to school.



ACTIVE LIVING STRATEGY #5: LOCATE SCHOOLS WITHIN EASY WALKING DISTANCE OF RESIDENTIAL AREAS (CONTINUED)

Schools that are located in neighborhoods near residential areas are more walkable and help children stay active by walking or biking to school. Many states have enacted policies that encourage schools to be preserved or developed centrally. For example, Maryland does not have any minimum acreage requirements for schools, which helps reduce the likelihood of urban sprawl. Laws in Vermont, Florida, and Maryland encourage coordination of school site planning between the school board and government agencies. In Vermont, funding for school renovations is given precedence over funding for new school development. Based on a model conducted by the EPA, neighborhood schools would reduce traffic, increase walking and biking by 13 percent, and reduce emissions by 15 percent.

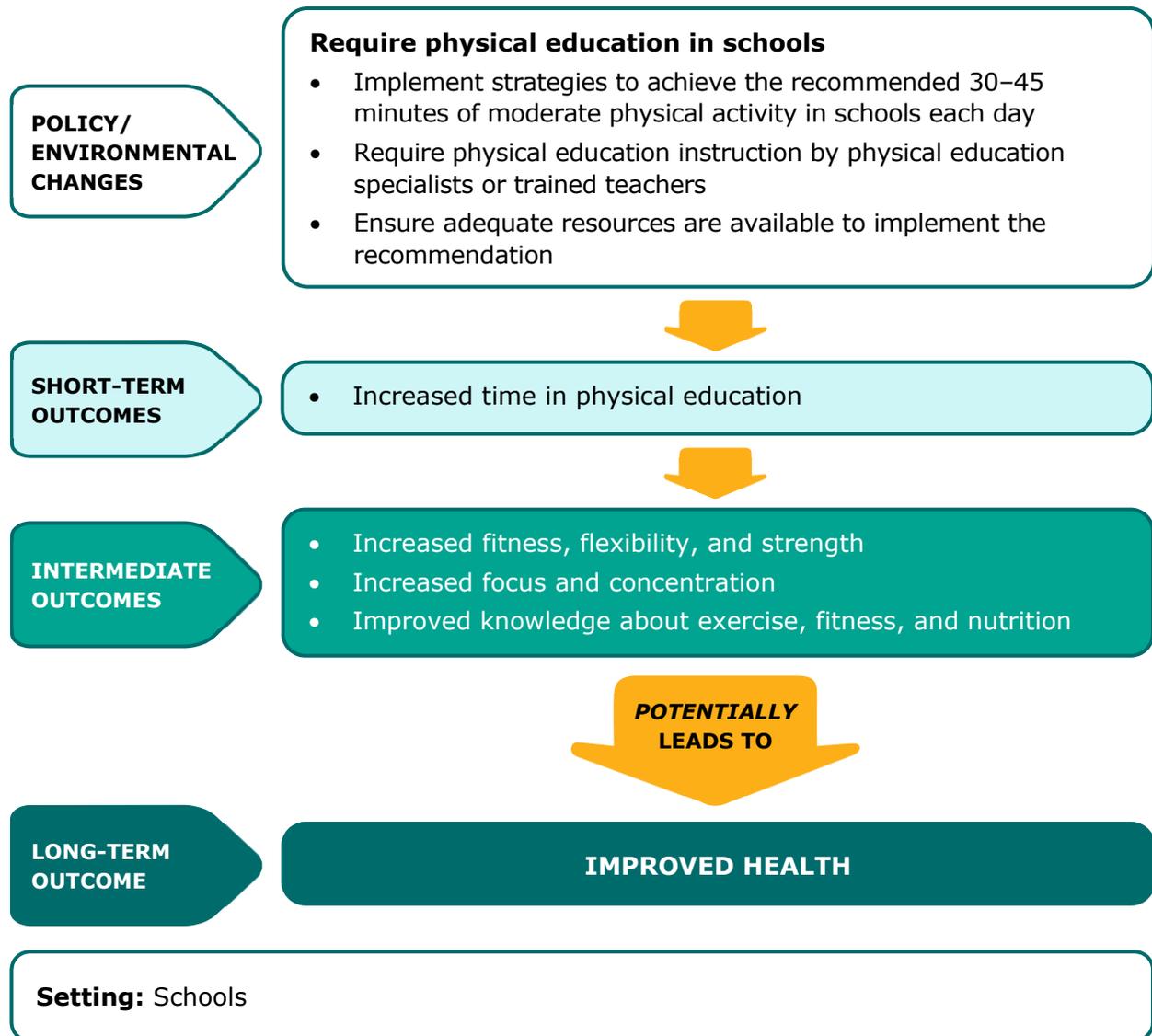
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ACTIVE LIVING STRATEGY #6: REQUIRE PHYSICAL EDUCATION IN SCHOOLS



Kids need constructive physical activity in their school day. School-based physical education (PE) increases students' level of physical activity in school across all grade levels.



ACTIVE LIVING STRATEGY #6: REQUIRE PHYSICAL EDUCATION IN SCHOOLS (CONTINUED)

Evidence indicates that **school-based physical education (PE) increases students' level of physical activity in school across all grade levels.** However, compliance with recommended physical activity guidelines varies across schools, often being higher in younger populations. A literature review documents **beneficial effects of physical education on musculoskeletal health, cardiovascular health, adiposity in overweight youth, mental health, academic performance, and bone health.** Reduced classroom time due to PE has not been shown to have a negative impact on academic performance. There is a wealth of evaluated physical education curricula that could be readily utilized to increase physical activity in schools and thus potentially improve the health of young generations.

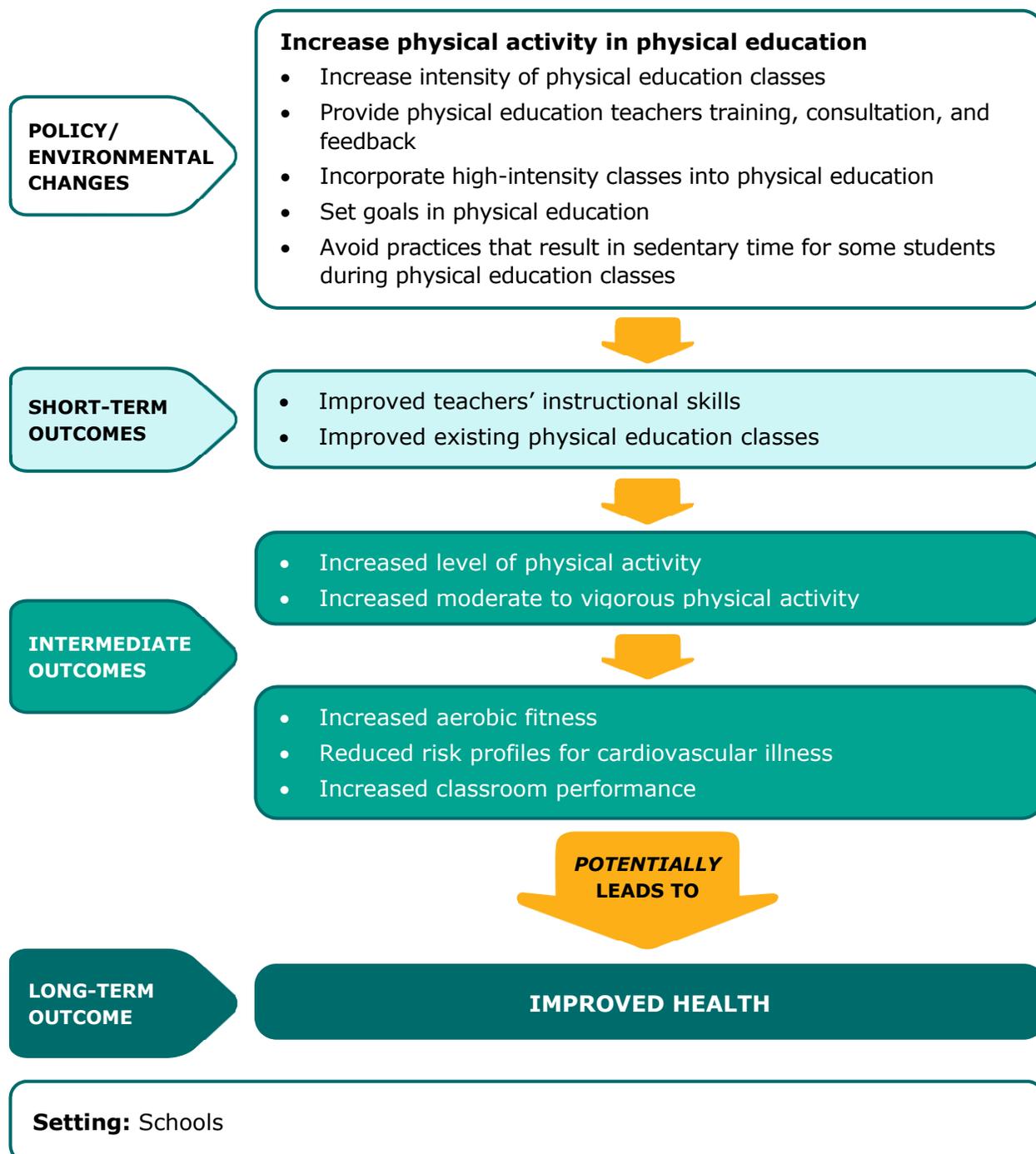
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ACTIVE LIVING STRATEGY #7: INCREASE PHYSICAL ACTIVITY IN PHYSICAL EDUCATION



When schools make the most of physical activity options, kids can improve their health and academic performance. Increasing the level of physical activity in physical education classes has been shown to have a positive impact on students' health.



ACTIVE LIVING STRATEGY #7: INCREASE PHYSICAL ACTIVITY IN PHYSICAL EDUCATION (CONTINUED)

Increasing the level of physical activity in physical education classes has been shown to have a positive impact on students' health. This can be accomplished without requiring additional time or resources by training physical education and classroom teachers on how to incorporate more moderate to vigorous physical activity into their existing programs. Some physical education interventions showed a significant impact on body-mass index (BMI), cholesterol, and blood pressure in comparison with the control group. Studies have shown that spending more time in physical education does not have harmful effects on academic achievement but instead may actually improve performance.

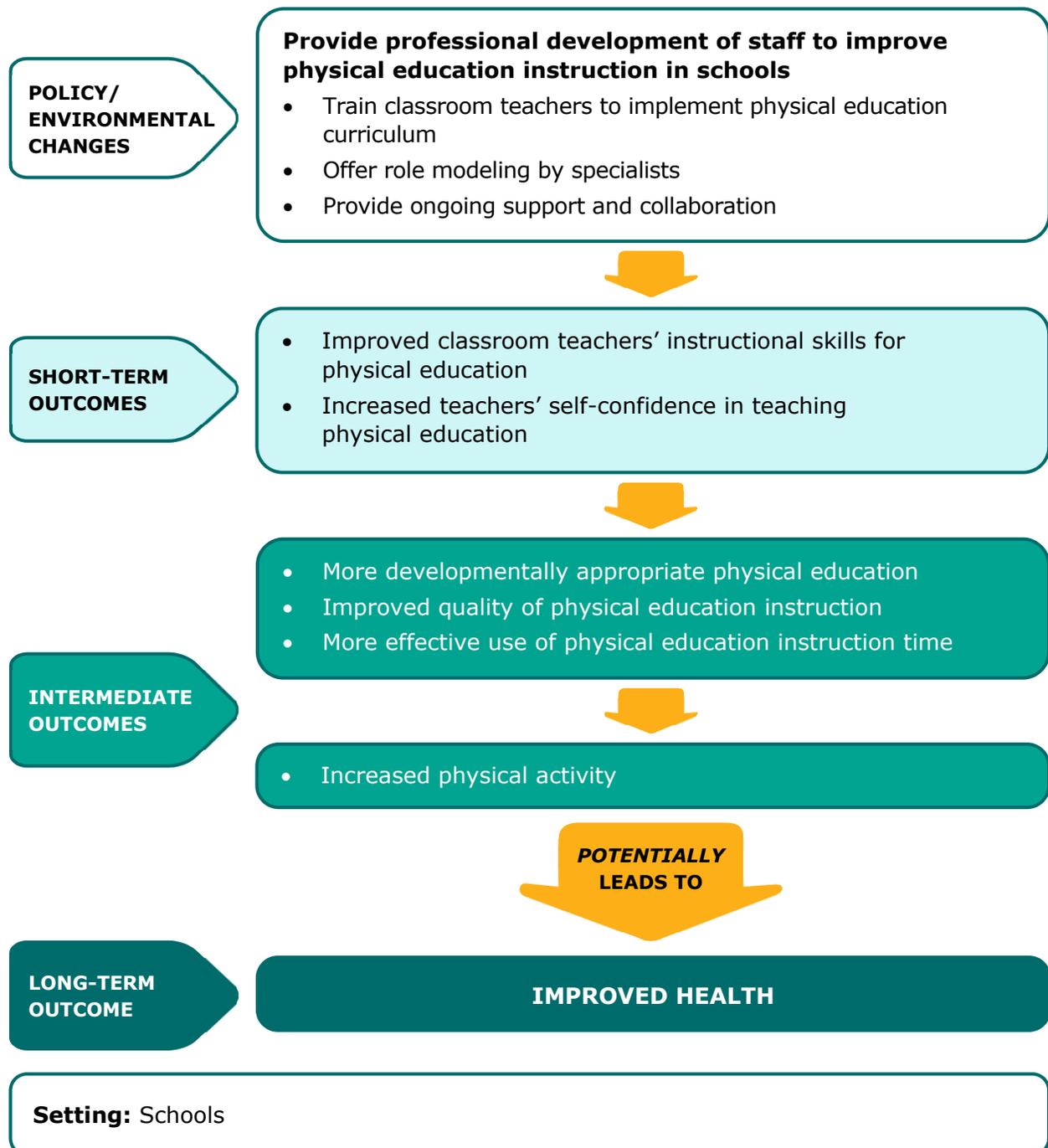
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ACTIVE LIVING STRATEGY #8: PROVIDE PROFESSIONAL DEVELOPMENT OF STAFF TO IMPROVE PHYSICAL EDUCATION INSTRUCTION IN SCHOOLS



When teachers are trained and feel confident about teaching physical education, the kids benefit from greater physical activity. Training classroom teachers to teach developmentally appropriate physical education has been effective in increasing the amount of time students are physically active.



ACTIVE LIVING STRATEGY #8: PROVIDE PROFESSIONAL DEVELOPMENT OF STAFF TO IMPROVE PHYSICAL EDUCATION INSTRUCTION IN SCHOOLS (CONTINUED)

Programs designed to **train classroom teachers to teach developmentally appropriate physical education have been effective in increasing the amount of time students are physically active.** Trained teachers have the potential to increase the quality and intensity of physical education. By supporting staff's professional development to enhance physical education instruction, schools equip teachers to lead more effective physical education classes. Consequently, students become more active during physical education classes. Teachers have also reported satisfaction with the training and increased self-confidence in teaching physical education.

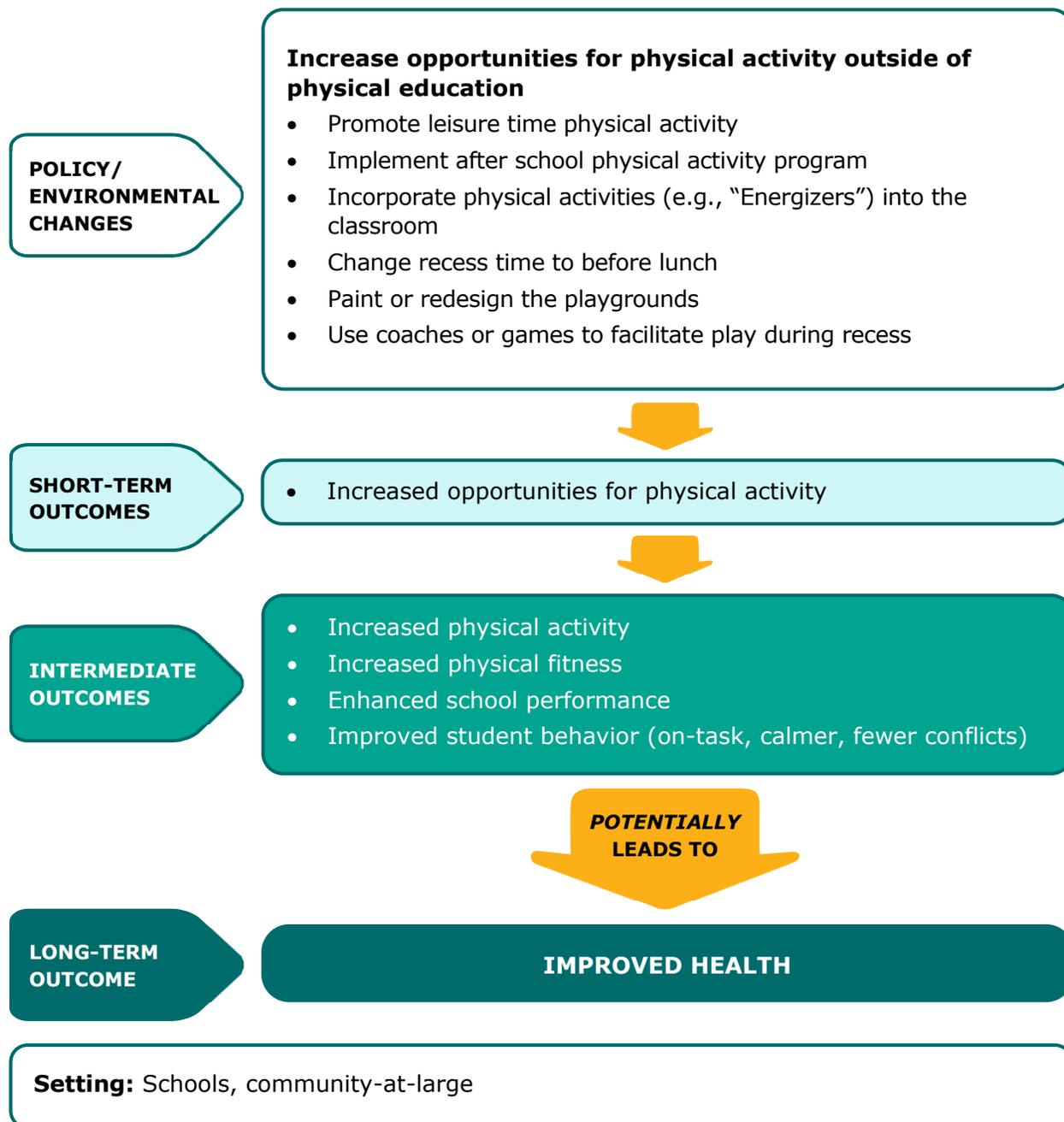
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ACTIVE LIVING STRATEGY #9: INCREASE OPPORTUNITIES FOR PHYSICAL ACTIVITY OUTSIDE OF PHYSICAL EDUCATION



Including physical activity in everyday curricula contributes to improving classroom behavior and performance and reducing conflict. School-based interventions have been found to be effective in increasing physical activity outside of physical education.



ACTIVE LIVING STRATEGY #9: INCREASE OPPORTUNITIES FOR PHYSICAL ACTIVITY OUTSIDE OF PHYSICAL EDUCATION (CONTINUED)

Increasing opportunities for physical activity outside physical education through innovative ways has been shown to increase physical activity among students. **School-based interventions have been found to be effective in increasing physical activity outside of physical education.** Providing classroom activity breaks, adding markings on playgrounds, implementing recess before lunch, providing structured games during recess, and offering afterschool programs have resulted in increased physical activity levels, improvement in classroom behavior, improvement in performance, and less classroom conflict.

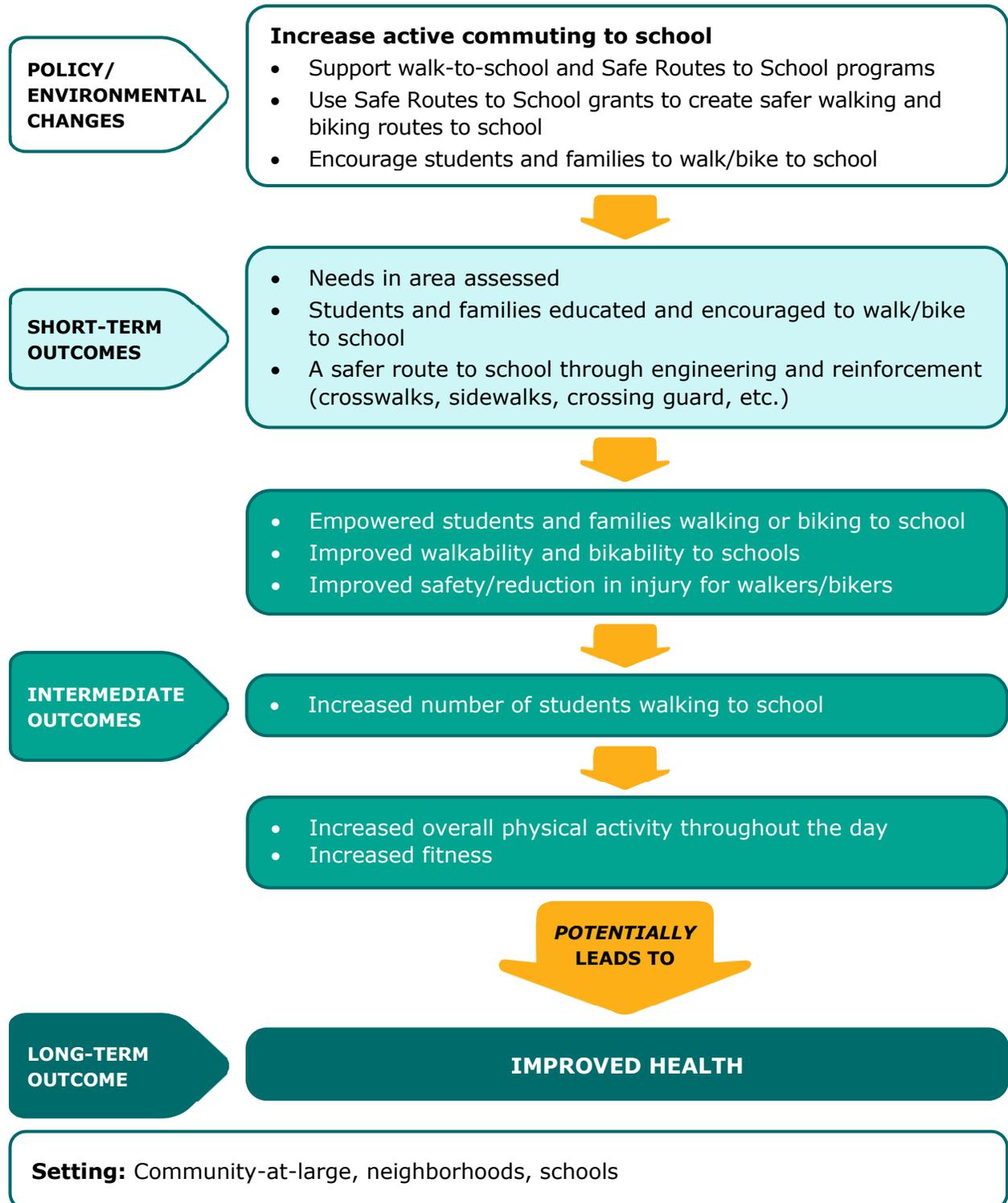
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ACTIVE LIVING STRATEGY #10: INCREASE ACTIVE COMMUTING TO SCHOOL



Active commuting promotes higher levels of overall physical activity and fitness as well as enhanced long-term health. Policies to create a safe route to school increase students' walking or biking to school.



ACTIVE LIVING STRATEGY #10: INCREASE ACTIVE COMMUTING TO SCHOOL (CONTINUED)

Policies to create a safe route to school increase students walking or biking to school. Efforts to educate and encourage students and parents to walk/bike to school and to reduce barriers to walking/biking to school through engineering and enforcement have shown increases in active commuting to school. Furthermore, students who walked/biked to school had higher levels of overall physical activity and fitness than students who did not commute actively to school. Supporting programs that encourage active commuting is an effective strategy to increase physical activity and thus potentially enhance long-term health.

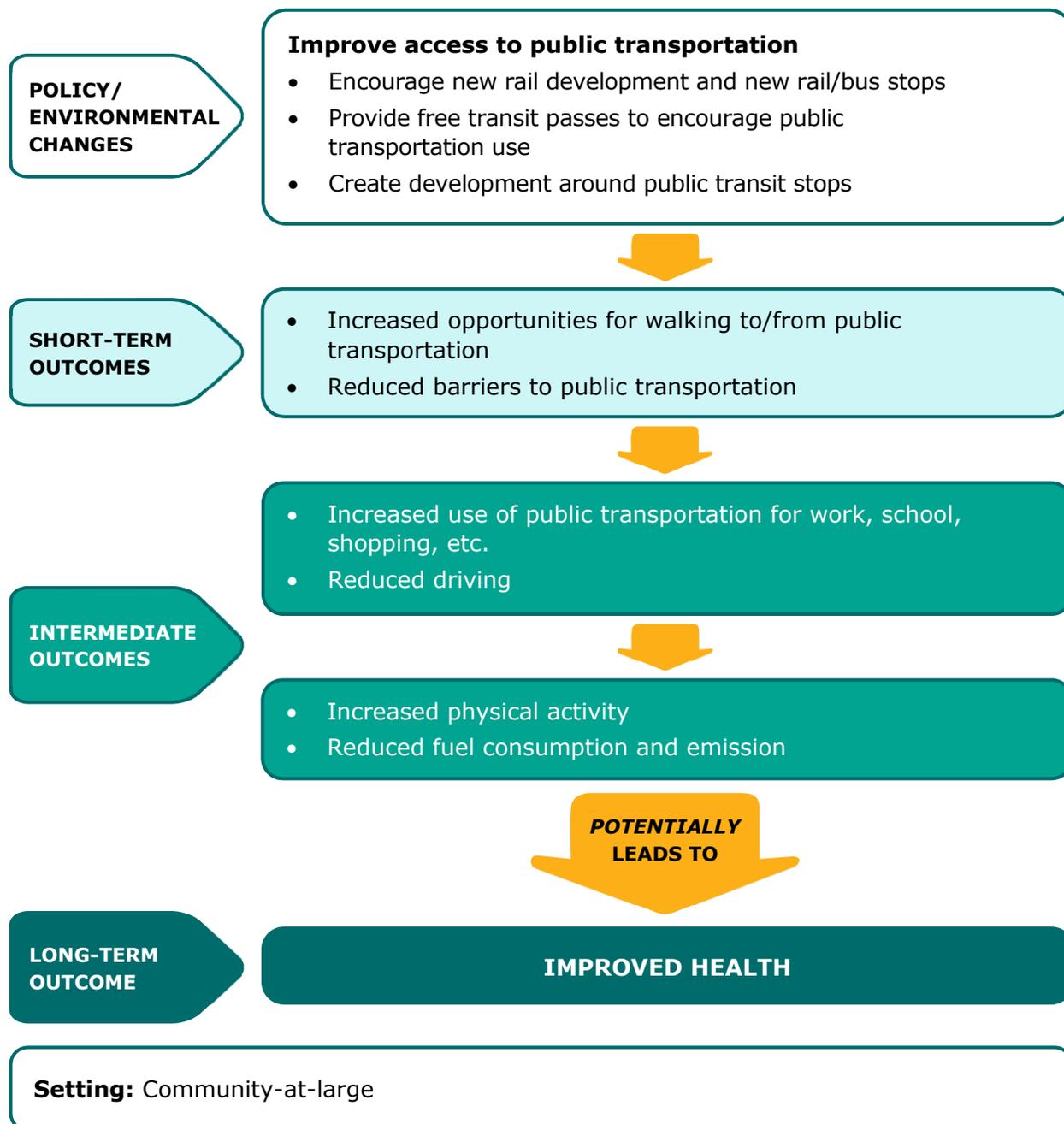
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ACTIVE LIVING STRATEGY #11: IMPROVE ACCESS TO PUBLIC TRANSPORTATION



The use of public transportation is one way to achieve the recommended level of daily physical activity for youth and adults. Improving access to public transportation is likely to increase opportunities for physical activity.



ACTIVE LIVING STRATEGY #11: IMPROVE ACCESS TO PUBLIC TRANSPORTATION (CONTINUED)

Improving access to public transportation is likely to increase opportunities for physical activity by enabling people to walk to and from the transit stop. This can help populations at high risk for obesity, particularly underserved populations, achieve the recommended level of daily physical activity. It has been shown that commuters who used a light rail system to travel to/from work had a lower risk of becoming obese. Another study found that university students with increased access to public transportation, through a free transit pass from the university, increased their use of public transportation for school and nonschool trips. Increased use of public transportation also reduces individual vehicle trips and related emission, potentially magnifying the positive impact on health.

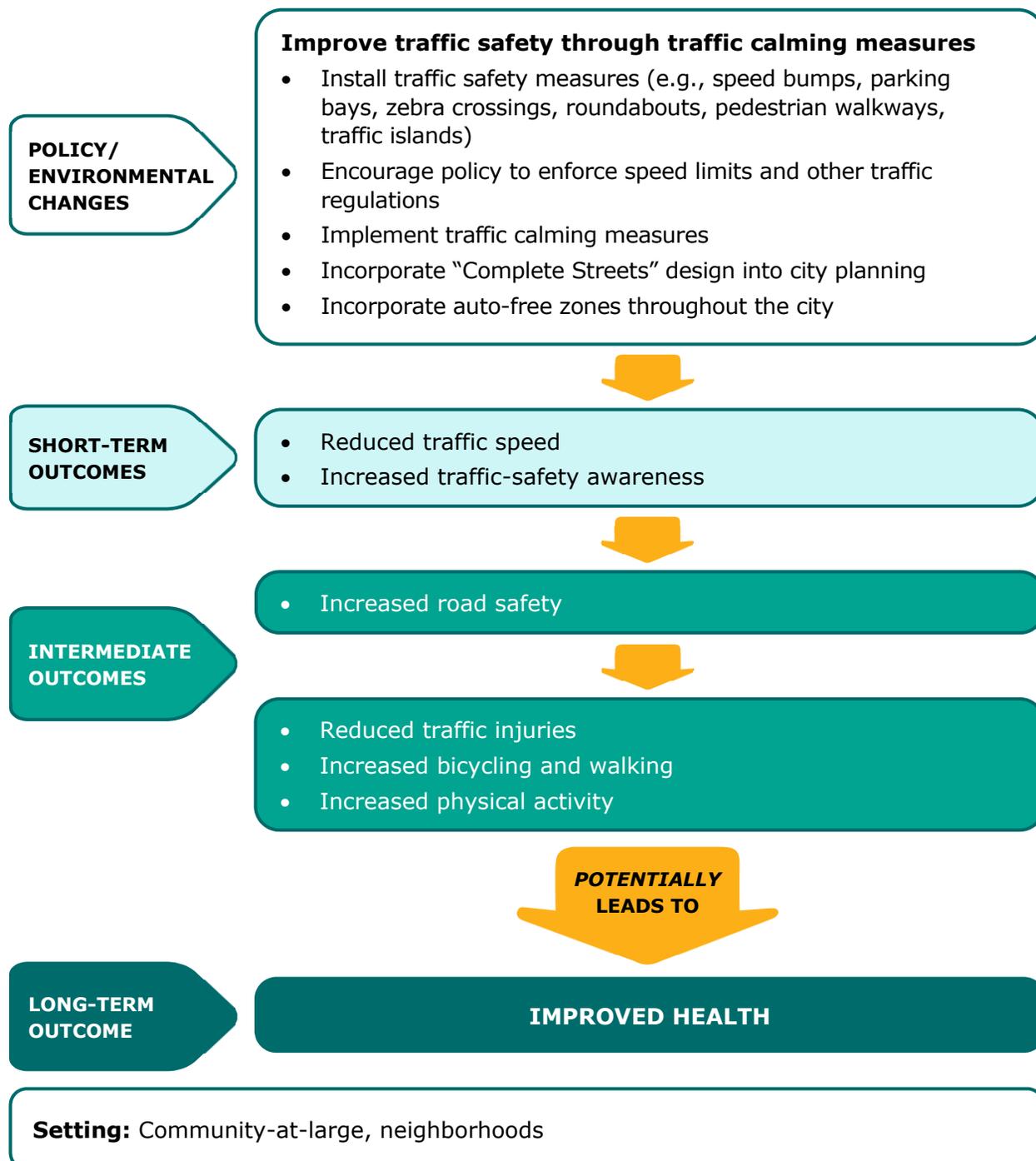
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ACTIVE LIVING STRATEGY #12: IMPROVE TRAFFIC SAFETY THROUGH TRAFFIC CALMING MEASURES



In areas where safety measures have been implemented, children are more likely to play outside and walk or bike to school. Safety from traffic and related injury is an important element of getting people physically active.



ACTIVE LIVING STRATEGY #12: IMPROVE TRAFFIC SAFETY THROUGH TRAFFIC CALMING MEASURES (CONTINUED)

Safety from traffic and related injury is an important element of getting people physically active. Implementing traffic calming measures has the potential to reduce traffic injuries and increase bicycling and walking. A study reported a 10 to 15 percent reduction in injury accidents following the implementation of traffic calming schemes in the United States. In residential areas, the reduction reaches 25 percent. Children are more likely to play outside and walk or bike to school in areas that have speed bumps, crosswalks, roundabouts, and other safety measures installed. Outside the United States, policies to improve traffic safety have dramatically reduced traffic deaths in the Netherlands and Germany. These policies include the implementation of auto-free zones, lower speed limits, and strict regulations protecting pedestrians and bicyclists.

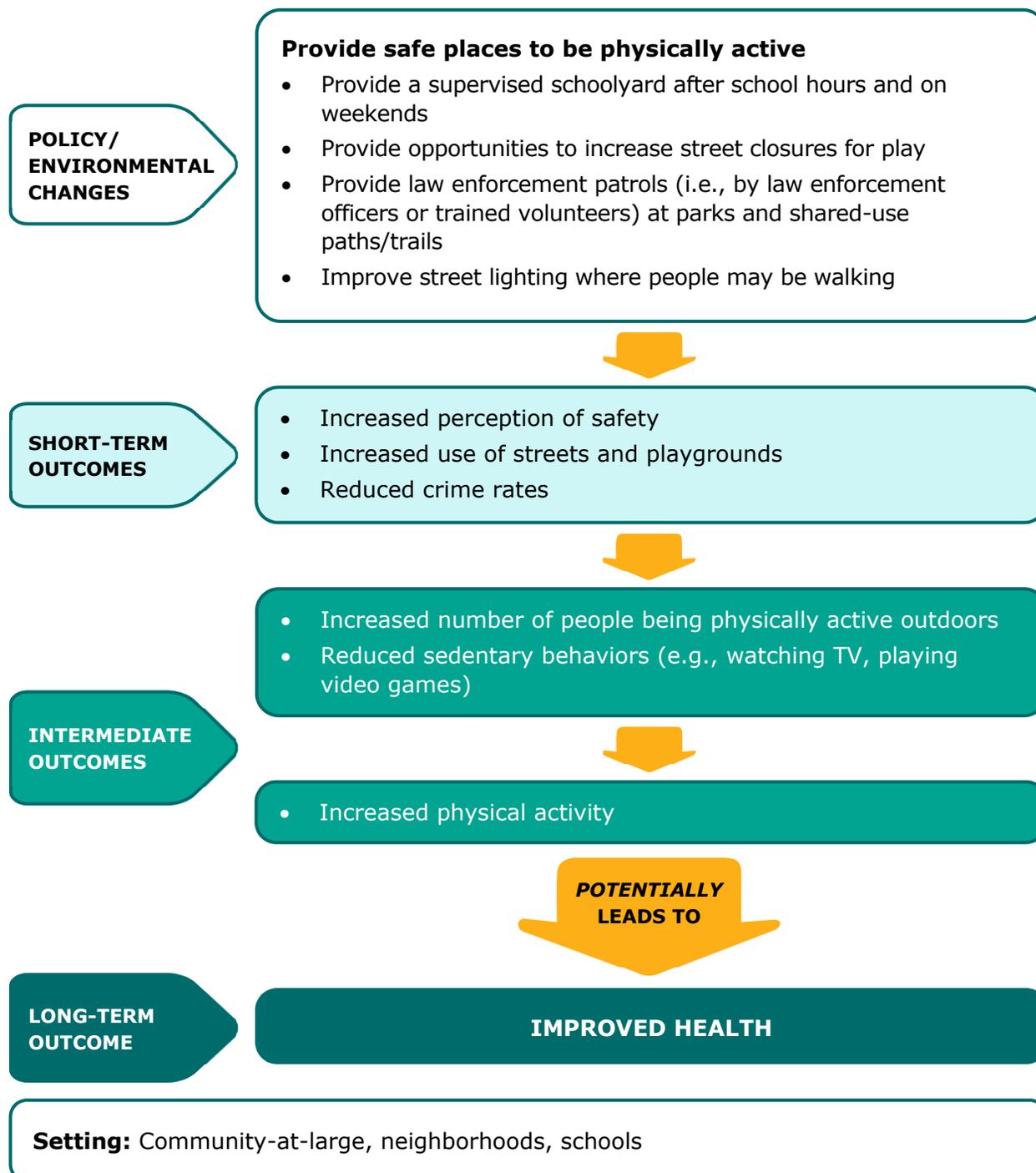
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ACTIVE LIVING STRATEGY #13: PROVIDE SAFE PLACES TO BE PHYSICALLY ACTIVE



Neighborhoods perceived to be unsafe can be barriers to physical activity. Research shows that people are more likely to engage in physical activity outdoors if they have a safe place to do so.



ACTIVE LIVING STRATEGY #13: PROVIDE SAFE PLACES TO BE PHYSICALLY ACTIVE (CONTINUED)

Research shows that **people are more likely to engage in physical activity outdoors if they have a safe place to do so**. This is especially true for women and children. Living in a neighborhood perceived to be unsafe has been found to be a barrier to physical activity. Implementing specific measures can improve the safety of the area. Some interventions that have effectively provided safe environments for physical activity include opening school playgrounds after school hours and on weekends, closing streets to traffic, and improving street lighting on pedestrian walkways. A study found that inner-city elementary school children reduced screen time over a two-year period after being provided with a supervised schoolyard for use after school hours. Another study found that adults increased their use of a pedestrian walkway and reported feeling safer following lighting improvements.

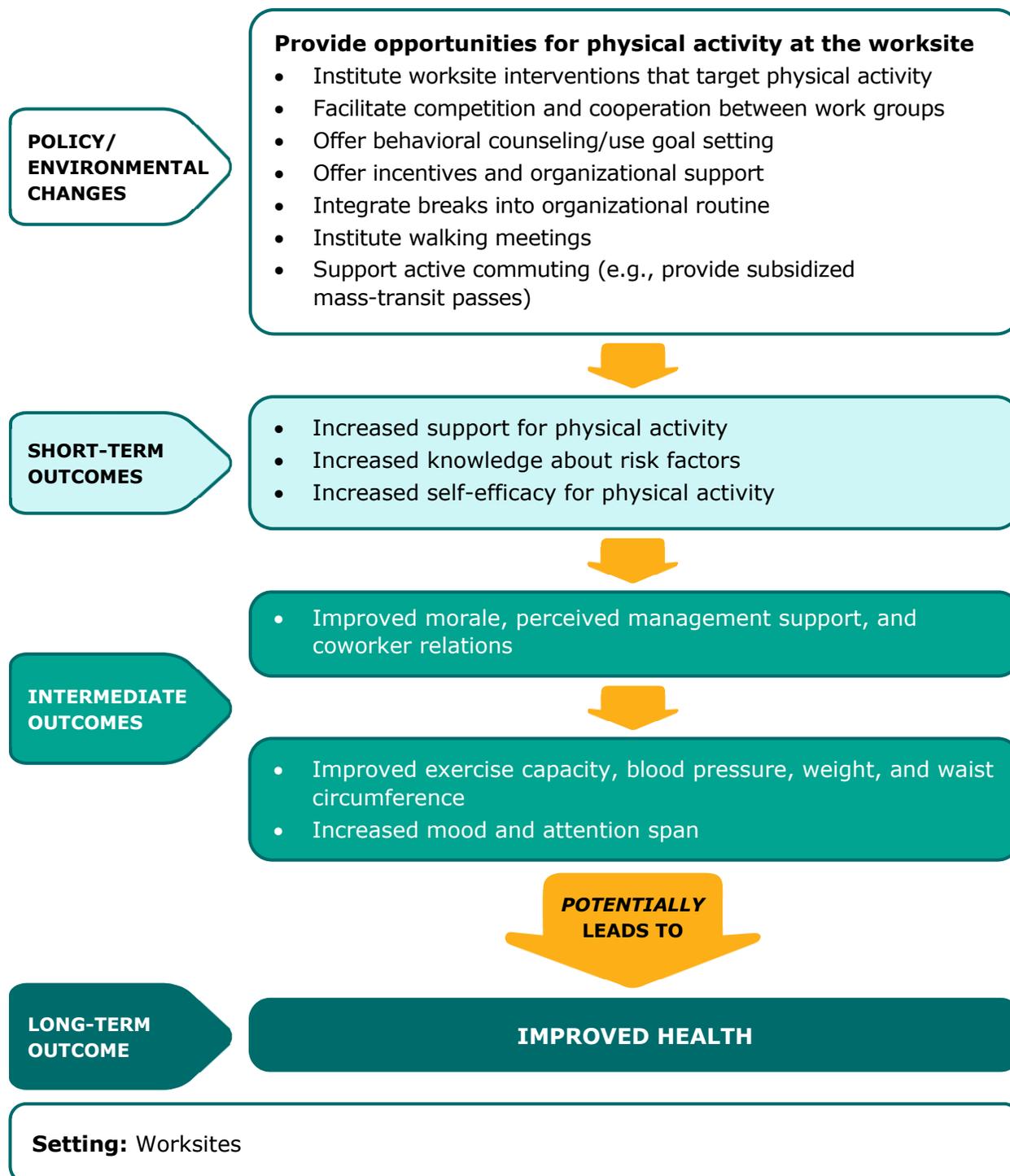
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ACTIVE LIVING STRATEGY #14: PROVIDE OPPORTUNITIES FOR PHYSICAL ACTIVITY AT THE WORKSITE



Motivating employees to participate in physical activity can effect positive behavior change and potentially improve overall workforce health. Worksite interventions targeting physical activity have been shown to be the most effective.



ACTIVE LIVING STRATEGY #14: PROVIDE OPPORTUNITIES FOR PHYSICAL ACTIVITY AT THE WORKSITE (CONTINUED)

Interventions targeting physical activity specifically have been shown to be the most effective worksite interventions. Worksite interventions use team competition, goal setting, and behavioral counseling as mechanisms for motivating behavior change. Although worksite interventions face challenges such as motivating participants to register for the program, retaining participation, and long-term maintenance of positive behavior change; a literature review shows modest effects in weight loss at 6–12 months, increases in moderate to vigorous physical activity, and reductions in cardiovascular risk factors. Other innovative ideas, such as integrating work breaks, even as short as 10 minutes, have resulted in meaningful health benefits. These strategies are well received individually and organizationally and have the potential to improve the health of the workforce.

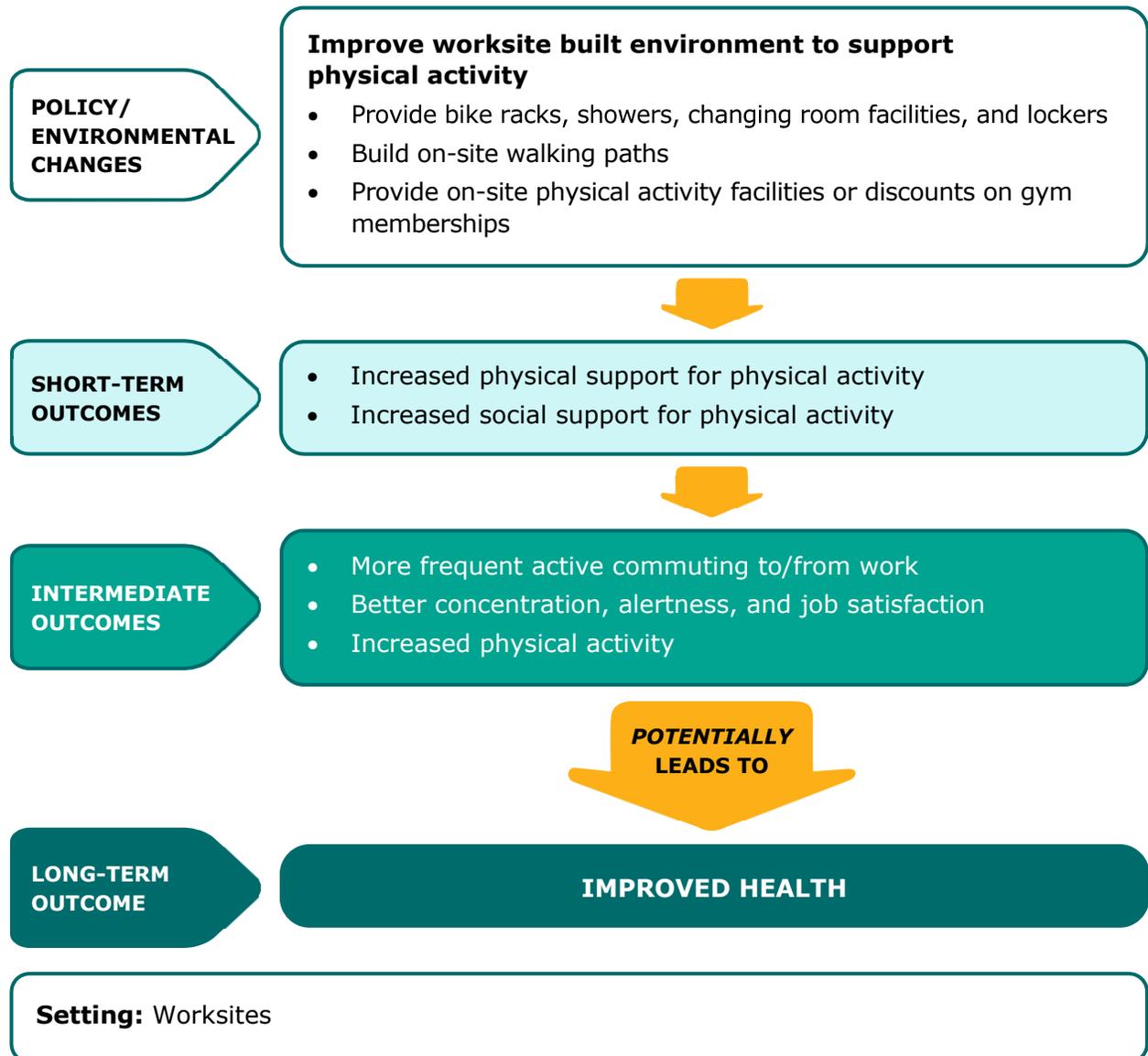
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ACTIVE LIVING STRATEGY #15: IMPROVE WORKSITE BUILT ENVIRONMENT TO SUPPORT PHYSICAL ACTIVITY



People are more likely to walk or bike to work when physical activity is encouraged. Improving the worksite built environment, combined with increased opportunities for physical activity, may lead to increased physical activity and overall health.



ACTIVE LIVING STRATEGY #15: IMPROVE WORKSITE BUILT ENVIRONMENT TO SUPPORT PHYSICAL ACTIVITY (CONTINUED)

The impact of the worksite's built environment (e.g., walking tracks, fitness facilities) varies across studies. A recent study found that people who reported more worksite support for engaging in physical activity were more likely to walk or bike to work once a week. In particular, women who perceived cultural and physical supports in the workplace were significantly more likely to walk or bike to work. **Improving the worksite built environment, combined with increased opportunities for physical activity at the worksite, may lead to increased physical activity and potentially improved overall health.**

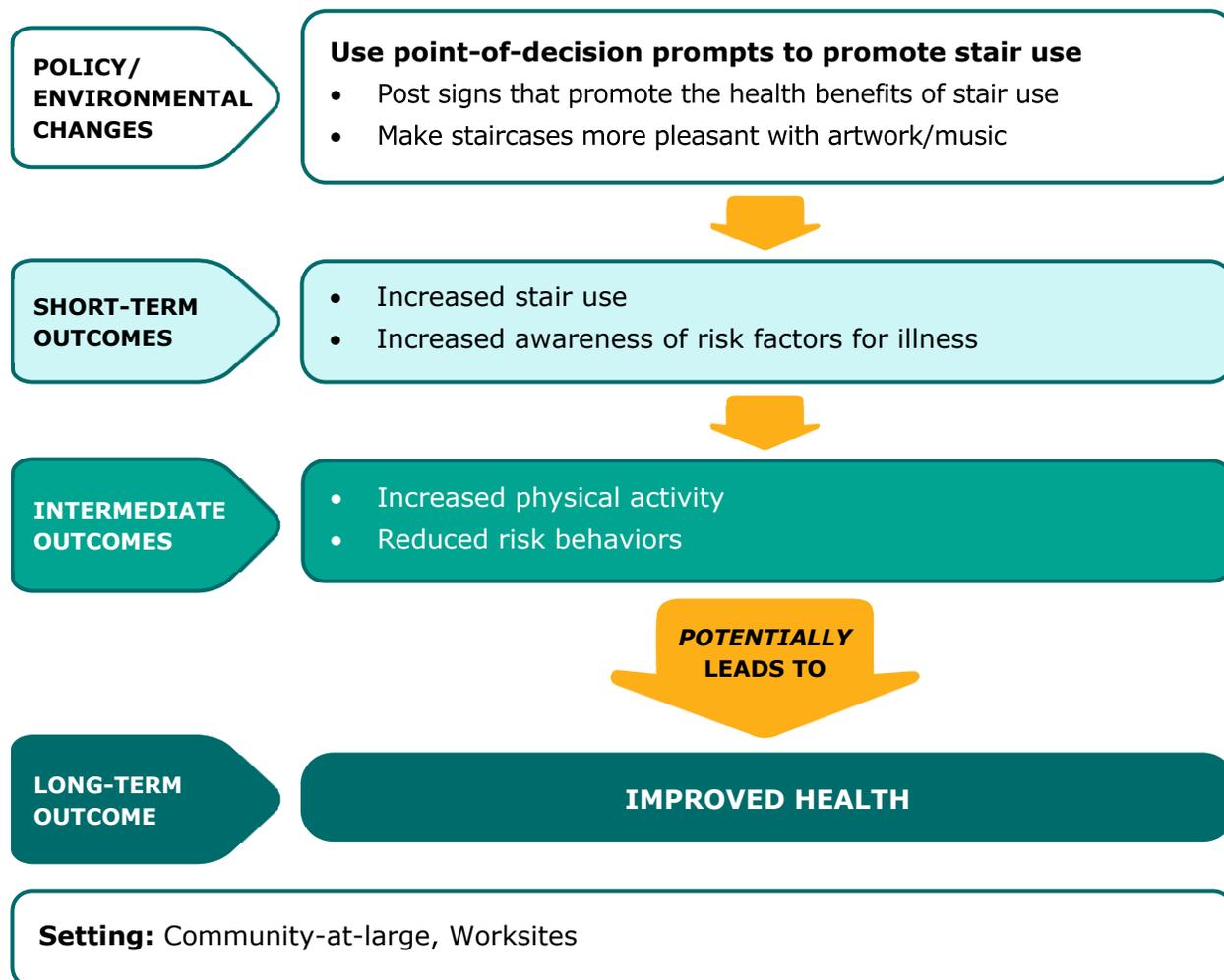
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ACTIVE LIVING STRATEGY #16: USE POINT-OF-DECISION PROMPTS TO PROMOTE STAIR USE



Promoting physical activity through signs that highlight its benefits and art and music that make active environments more attractive can stimulate more physical activity in multiple settings. Simple environmental changes to encourage people to take the stairs have increased stair use in various public places.



ACTIVE LIVING STRATEGY #16: USE POINT-OF-DECISION PROMPTS TO PROMOTE STAIR USE (CONTINUED)

Simple environmental changes to promote stair use (such as posting signs that promote the health benefits of stair use and making staircases more pleasant with artwork displays or music) **have significantly increased stair use** in various public places (e.g., shopping malls, train stations, airports) and university buildings. When signs promoting the health and weight-control benefits of stair use were placed beside escalators with adjacent stairs or near the stairs, significant increases in stair use were observed across age, gender, and race/ethnicity groups, in both obese and non-obese people.

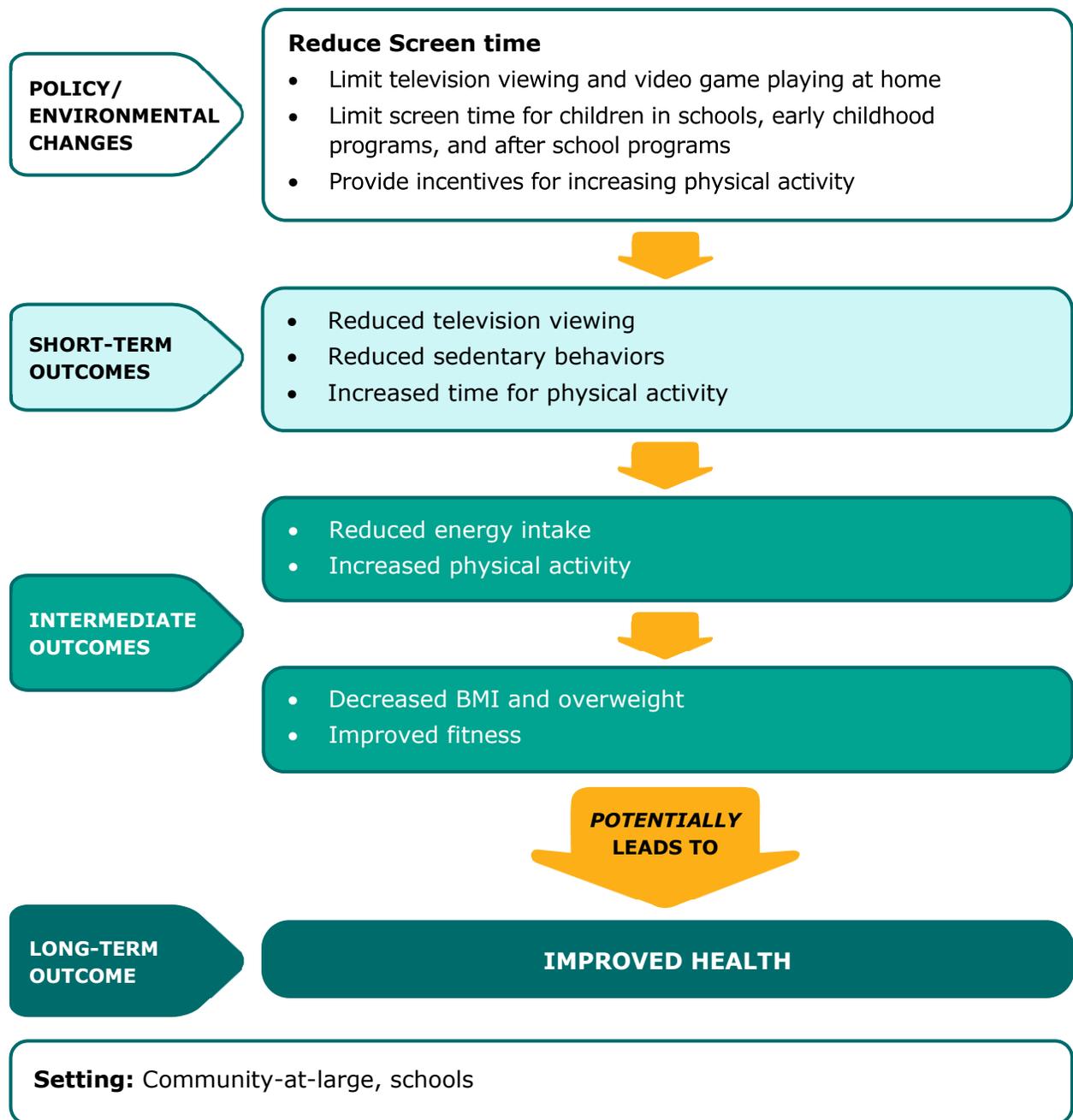
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ACTIVE LIVING STRATEGY #17: REDUCE SCREEN TIME



Studies show limiting screen time in various settings can increase physical activity and lead to improved overall health. Interventions aimed at reducing television viewing were effective in reducing sedentary behaviors.



ACTIVE LIVING STRATEGY #17: REDUCE SCREEN TIME (CONTINUED)

Interventions aimed at **reducing television viewing were effective in reducing sedentary behaviors**. Most studies showed significant positive outcomes associated with reduced television viewing. These positive outcomes included fewer meals eaten in front of the television, reduced energy intake, and in some cases significant increases in physical activity and decreases in percent overweight, BMI, and body fat. Implementing policies to limit screen time in various settings can be an effective strategy to increase physical activity and thus lead to improved overall health.

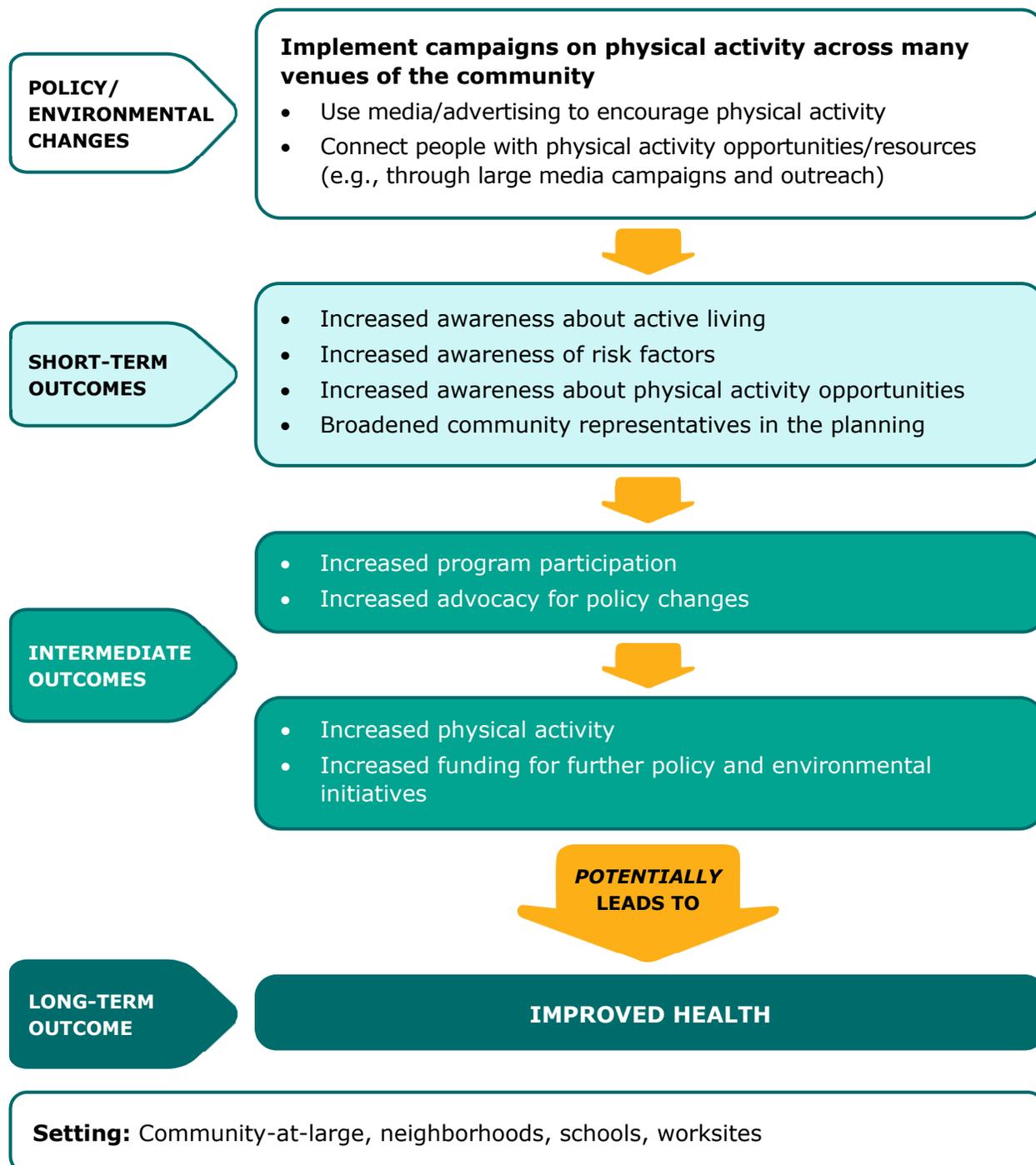
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ACTIVE LIVING STRATEGY #18: IMPLEMENT CAMPAIGNS ON PHYSICAL ACTIVITY ACROSS MANY VENUES OF THE COMMUNITY



Media advertising, websites, and public relations events support the importance of physical activity and the availability of physical activity opportunities. Community-wide campaigns to promote physical activity can be effective in increasing physical activity.



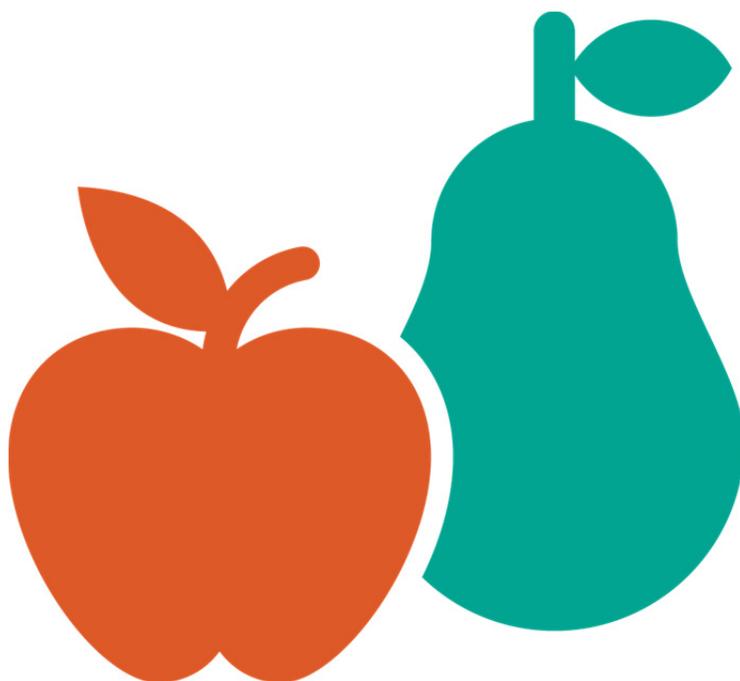
ACTIVE LIVING STRATEGY #18: IMPLEMENT CAMPAIGNS ON PHYSICAL ACTIVITY ACROSS MANY VENUES OF THE COMMUNITY (CONTINUED)

Community-wide campaigns to promote physical activity have been shown to be effective in increasing physical activity. Using media advertising (e.g., newspapers, TV, radio), websites, and public relations events in campaigns to promote physical activity have increased awareness of the importance of physical activity and the availability of physical activity programs. These campaigns also saw increases in participation in physical activity programs. The campaigns led to increased public support and advocacy for policy changes that, in turn, increased opportunities for funding to advance policy and environmental initiatives aimed at increasing physical activity in the community.

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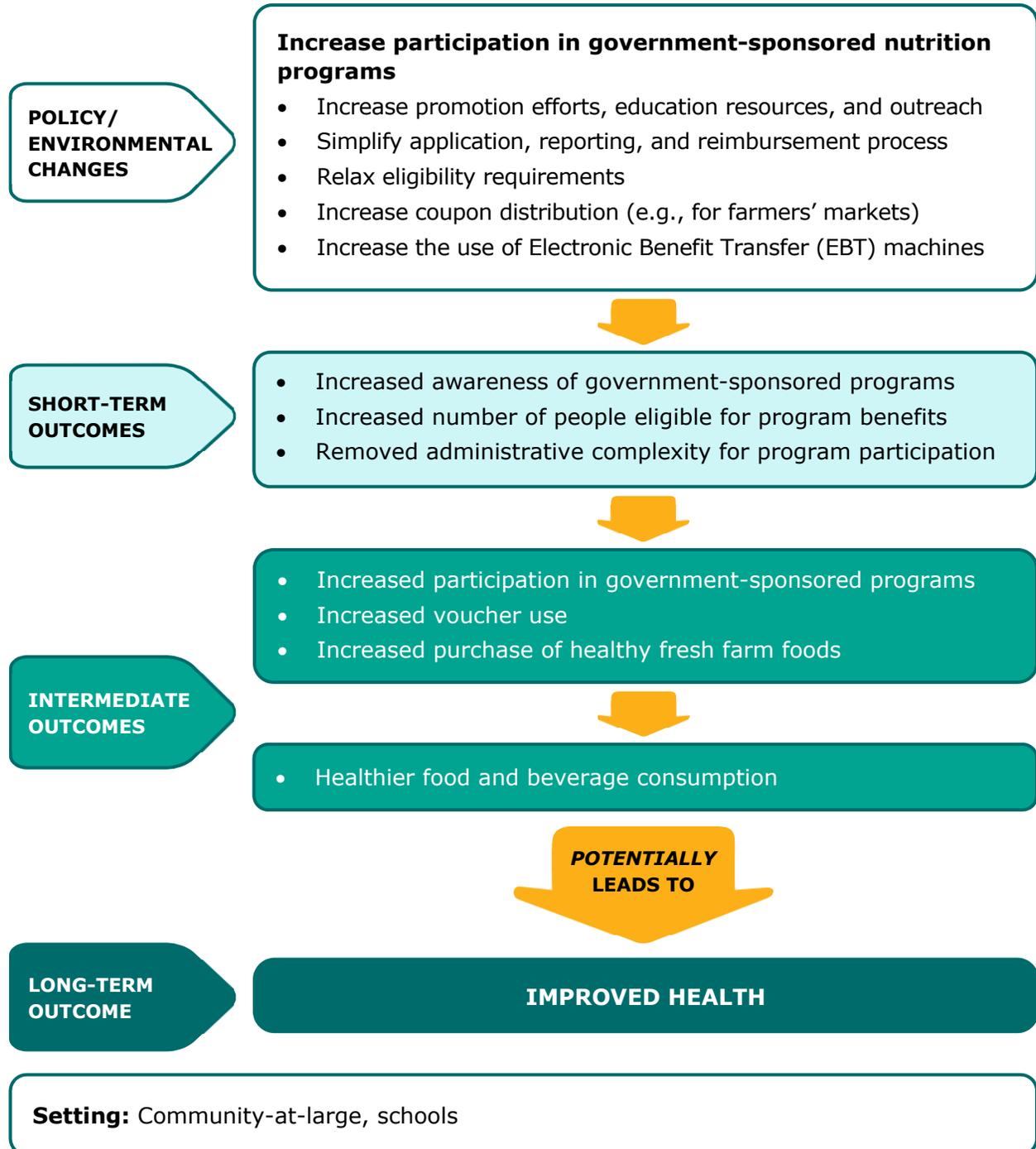
III. HEALTHY EATING STRATEGIES



HEALTHY EATING STRATEGY #1: INCREASE PARTICIPATION IN GOVERNMENT- SPONSORED NUTRITION PROGRAMS



Government-sponsored nutrition programs have a wide reach to low-income populations. Studies have found that strategies focusing on program enhancements increased participation in government-sponsored programs.



HEALTHY EATING STRATEGY #1: INCREASE PARTICIPATION IN GOVERNMENT-SPONSORED NUTRITION PROGRAMS (CONTINUED)

Government-sponsored nutrition programs—such as Women, Infants, and Children (WIC); Farmers’ Market Nutrition Program (FMNP); and Summer Food Service Program—have a wide reach to low-income populations, enhancing nutrition education and access to healthy food. Studies have found that **strategies focusing on program enhancements** such as simplifying the application process, improving outreach and nutrition education, providing coupons for use at farmers’ markets, and making Electronic Benefit Transfer (EBT) machines more widely available **increased participation in government-sponsored programs**. For example, significantly more children participated in the Summer Nutrition Program in states where the reporting process was streamlined. In addition, policies that reduced reporting requirements increased eligibility for, and participation in, government-sponsored nutrition programs. One could expect subsequent increases in healthy food consumption that would result in improved health in the long term.

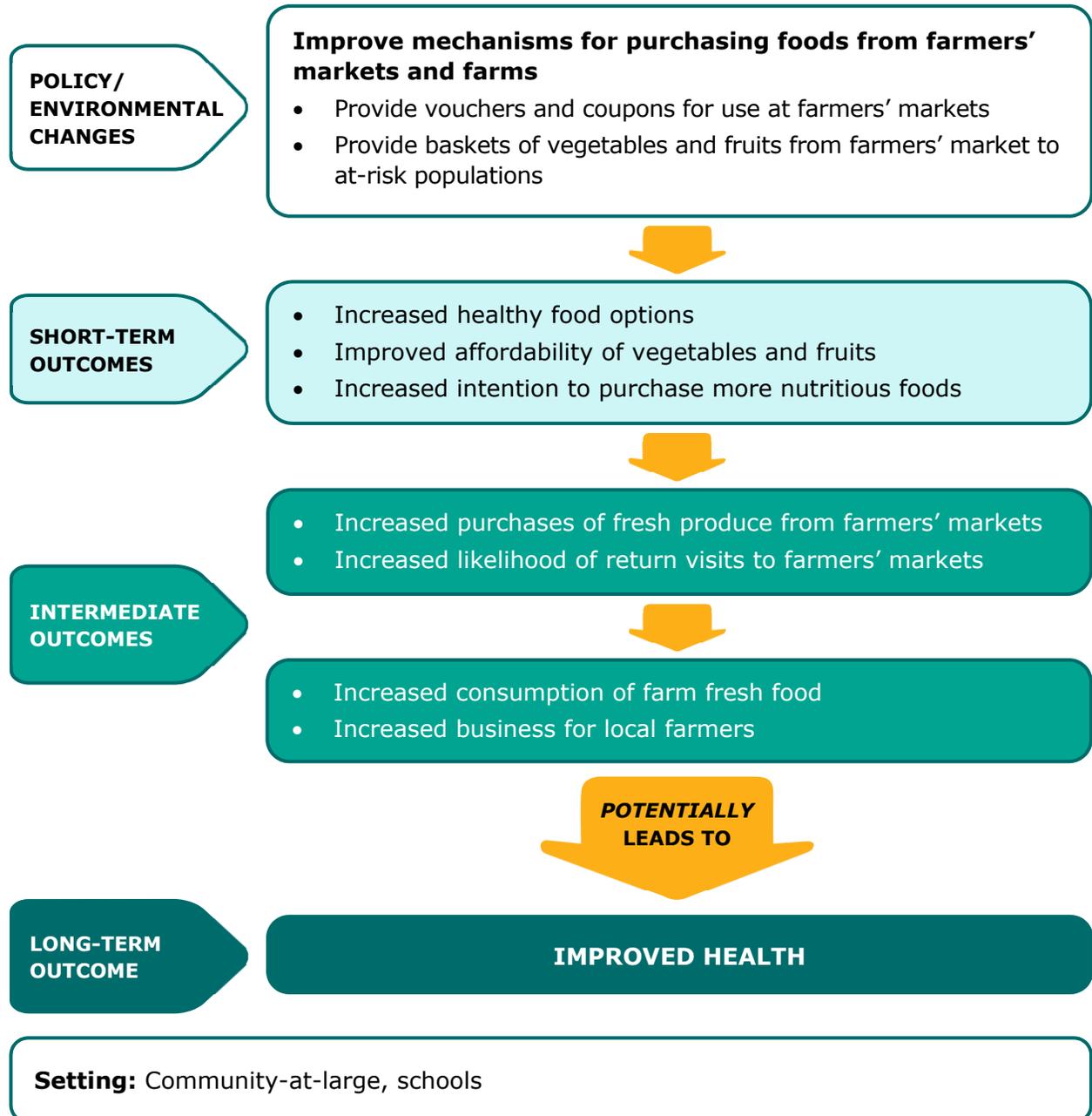
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HEALTHY EATING STRATEGY #2: IMPROVE MECHANISMS FOR PURCHASING FOODS FROM FARMERS' MARKETS AND FARMS



Purchasing food from farmers' markets has wide-reaching impact. Providing vouchers to low-income populations increased vegetable and fruit consumption. Supplying school salad bars with fresh produce from farmers' markets increased salad bar participation across all grade levels.



HEALTHY EATING STRATEGY #2: IMPROVE MECHANISMS FOR PURCHASING FOODS FROM FARMERS' MARKETS AND FARMS (CONTINUED)

Studies have found that improving mechanisms for purchasing foods from farmers' markets has wide-reaching impact. For example, **providing vouchers to low-income populations (seniors and WIC participants) for use at farmers' markets increased vegetable and fruit consumption.** In addition, providing homebound elders baskets of vegetables and fruits from farmers' markets increased the percentage of elders who consumed five or more vegetables and fruits daily. **Supplying school salad bars with fresh produce from farmers' markets dramatically increased salad bar participation** in schools across all grade levels. These increases in fresh produce consumption are expected to result in improved health.

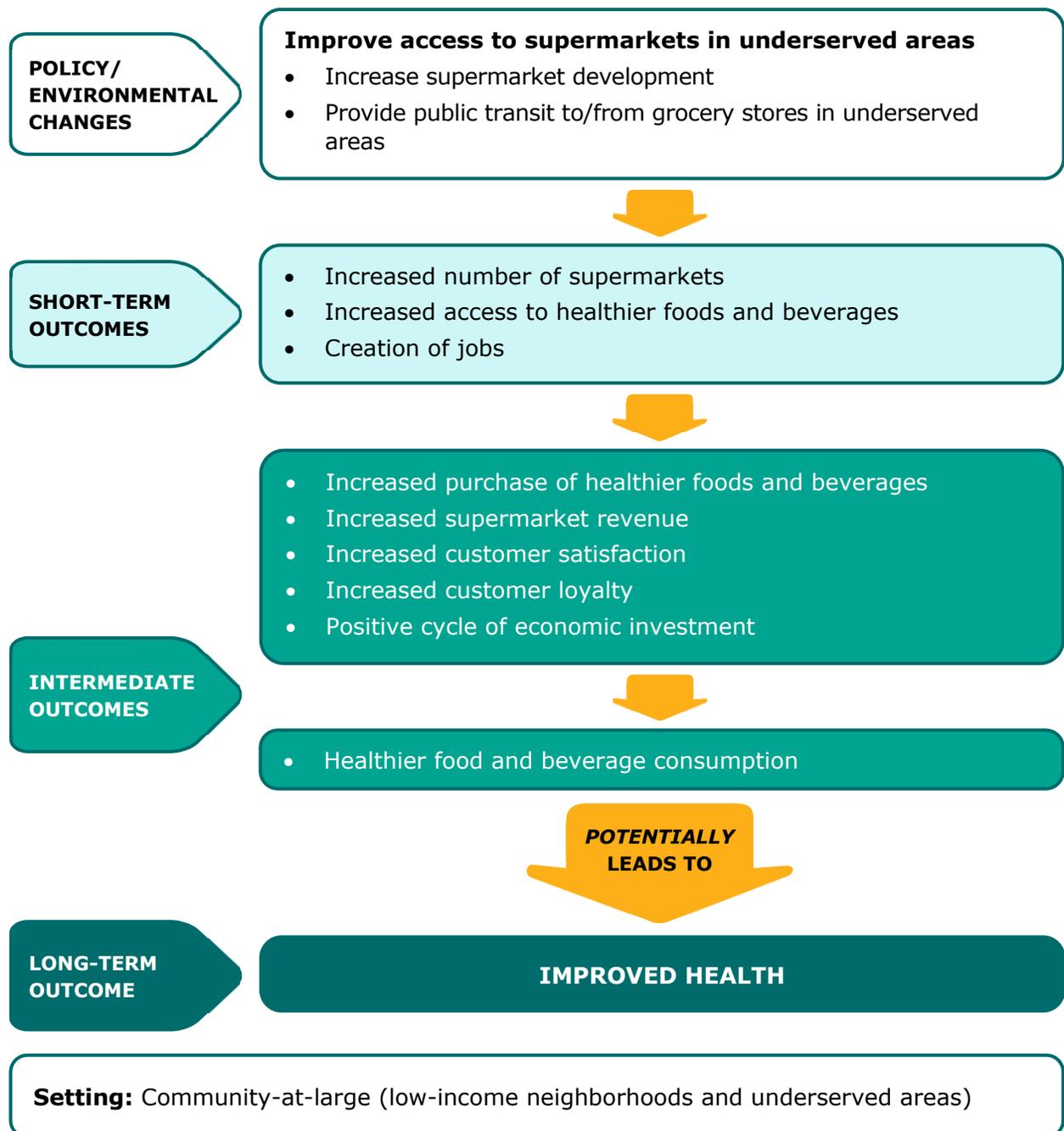
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HEALTHY EATING STRATEGY #3: IMPROVE ACCESS TO SUPERMARKETS IN UNDERSERVED AREAS



A lack of supermarkets has been shown to contribute to unhealthy eating and poor health outcomes. Increasing access to supermarkets in low-income neighborhoods improves access to healthier foods and beverages.



HEALTHY EATING STRATEGY #3: IMPROVE ACCESS TO SUPERMARKETS IN UNDERSERVED AREAS (CONTINUED)

A lack of supermarkets in underserved areas is believed to contribute to unhealthy eating and poor health outcomes in those communities. There is evidence that **increasing access to supermarkets in low-income neighborhoods** through public transit and increased supermarket development **improves access to healthier foods and beverages**. Supermarkets offering transportation services see an increase in revenue from fresh produce and other perishable items. The service is also effective in attracting and retaining customers. Incentives, new regulatory frameworks, involvement of nonprofit agencies and political leadership, and subsidy models have been recommended as strategies to attract planners and supermarket chains to underserved areas. The successful development of supermarkets consequently leads to the creation of jobs. The positive cycle of economic investment improves the supply of healthier foods and beverages and potentially leads to improved health of the members of the community who now have better access to healthier food sources.

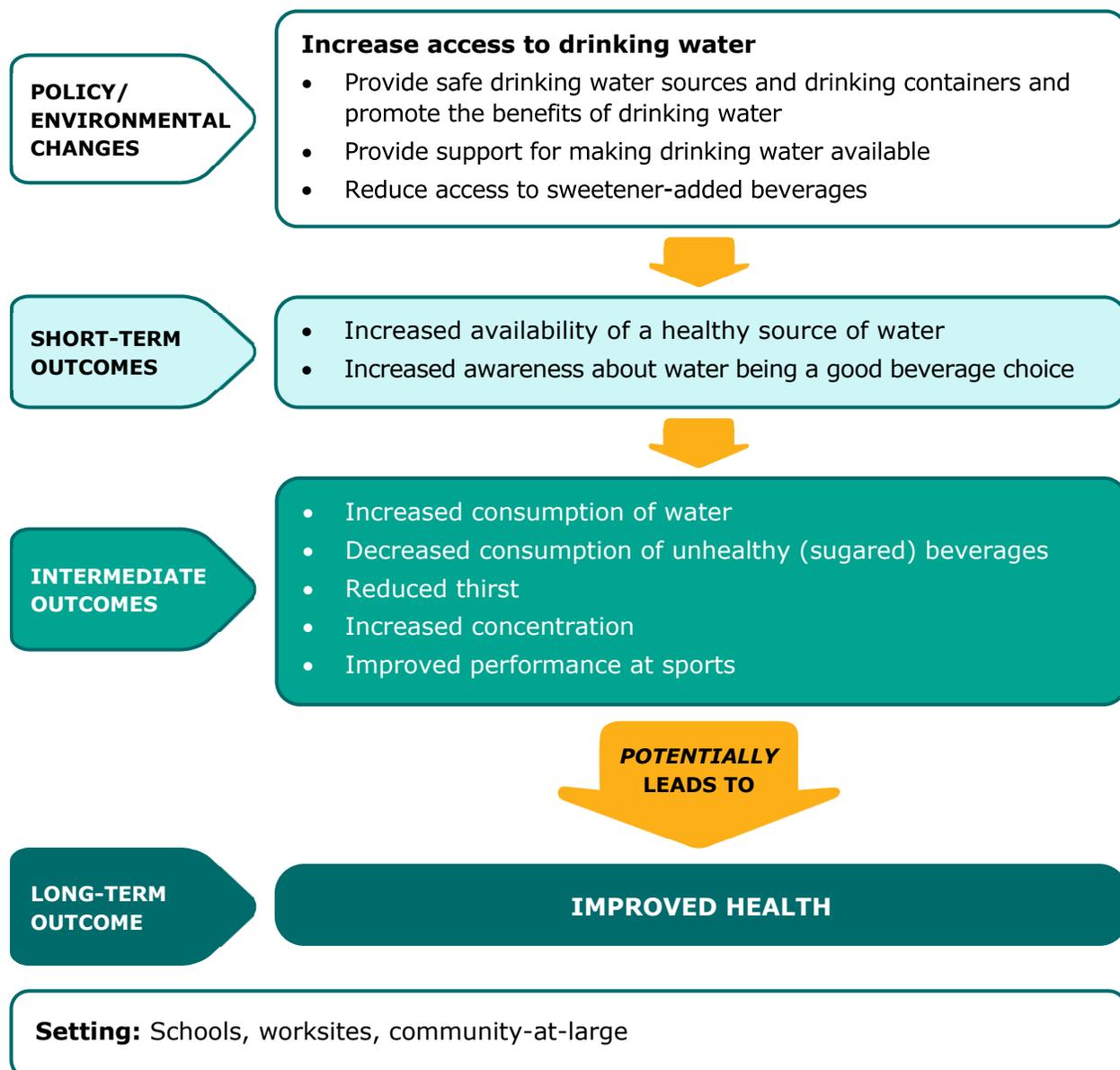
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HEALTHY EATING STRATEGY #4: INCREASE ACCESS TO DRINKING WATER



Young people benefit from drinking water, especially in place of sugar-added drinks. Schools can affect kids' health through beverage policies that raise awareness and increase the availability of healthier beverages. Providing accessible drinking water has been shown to increase water consumption.



HEALTHY EATING STRATEGY #4: INCREASE ACCESS TO DRINKING WATER (CONTINUED)

Studies have found that **providing accessible drinking water increases water consumption** dramatically at schools, especially when water containers are also available. Campaigns to promote the health benefits of water positively have influenced awareness and consumption. In addition, changes in school beverage policies have increased the availability and consumption of healthier beverages. Increased concentration and better performance at sports have also been reported with water consumption. Water consumption is also associated with reduced overweight.

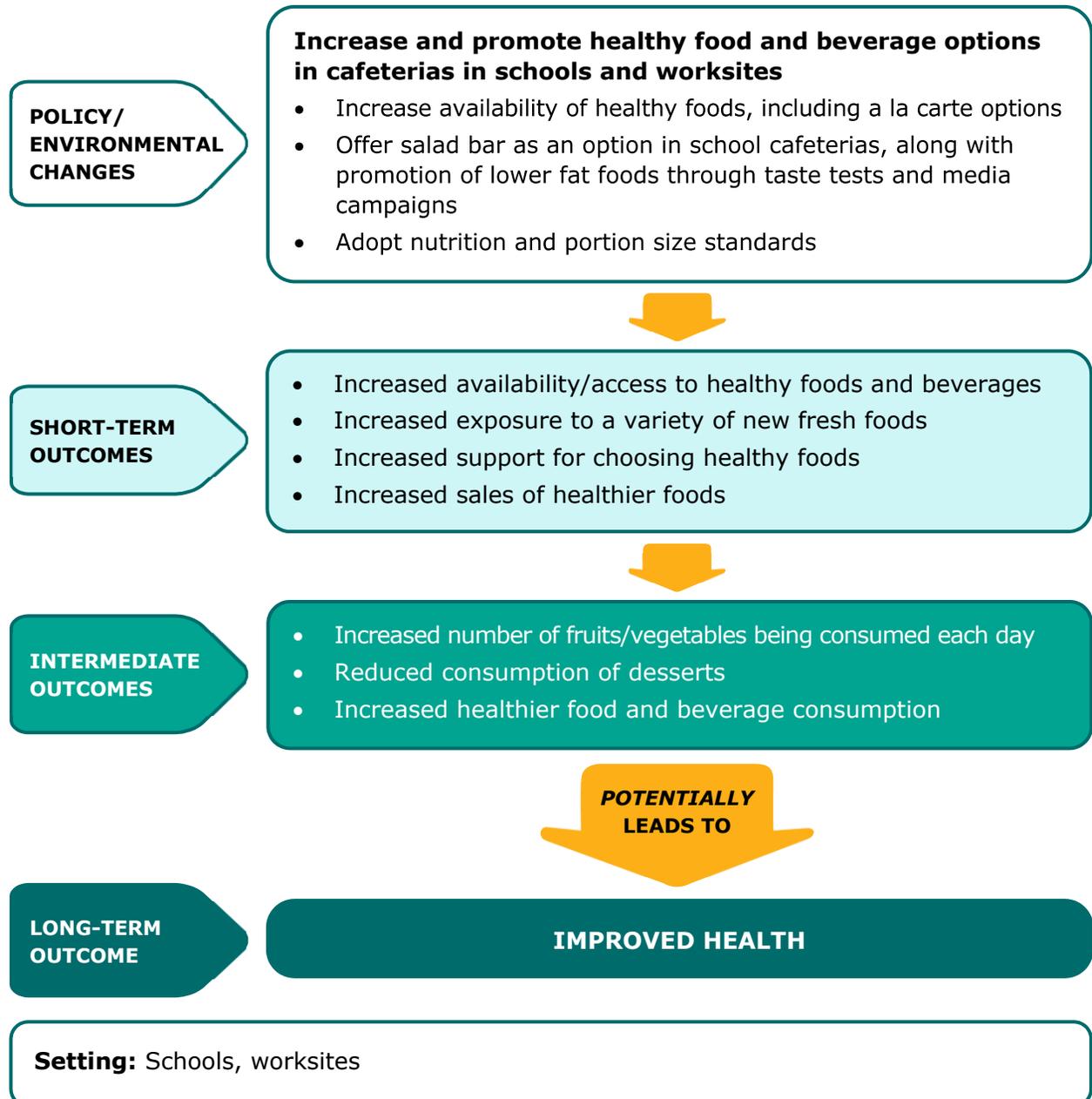
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HEALTHY EATING STRATEGY #5: INCREASE AND PROMOTE HEALTHY FOOD AND BEVERAGE OPTIONS IN CAFETERIAS IN SCHOOLS AND WORKSITES



Increasing healthy choices in a cafeteria increases the sale of healthy food. Studies show that students choose three times as many vegetables at cafeteria salad bars compared to other meal options.



HEALTHY EATING STRATEGY #5: INCREASE AND PROMOTE HEALTHY FOOD AND BEVERAGE OPTIONS IN CAFETERIAS IN SCHOOLS AND WORKSITES (CONTINUED)

Studies have shown that **increasing healthy choices in a cafeteria increases the sale of healthy food** in general. Studies in school settings have found that students chose three times as many servings of vegetables at the salad bar in comparison to the other meal choices. Further research has found that students with more healthy food options in the cafeteria perceived greater support for choosing healthy foods as compared to students with less healthy options. Furthermore, nutrition campaigns that reinforced nutrition education with increased availability of healthy foods in cafeterias saw a reduction in the incidence of overweight. Strategies that increase availability of healthy choices and prohibit the sale of sugary beverages and foods with minimal nutritional value have the potential to reduce the incidence of overweight.

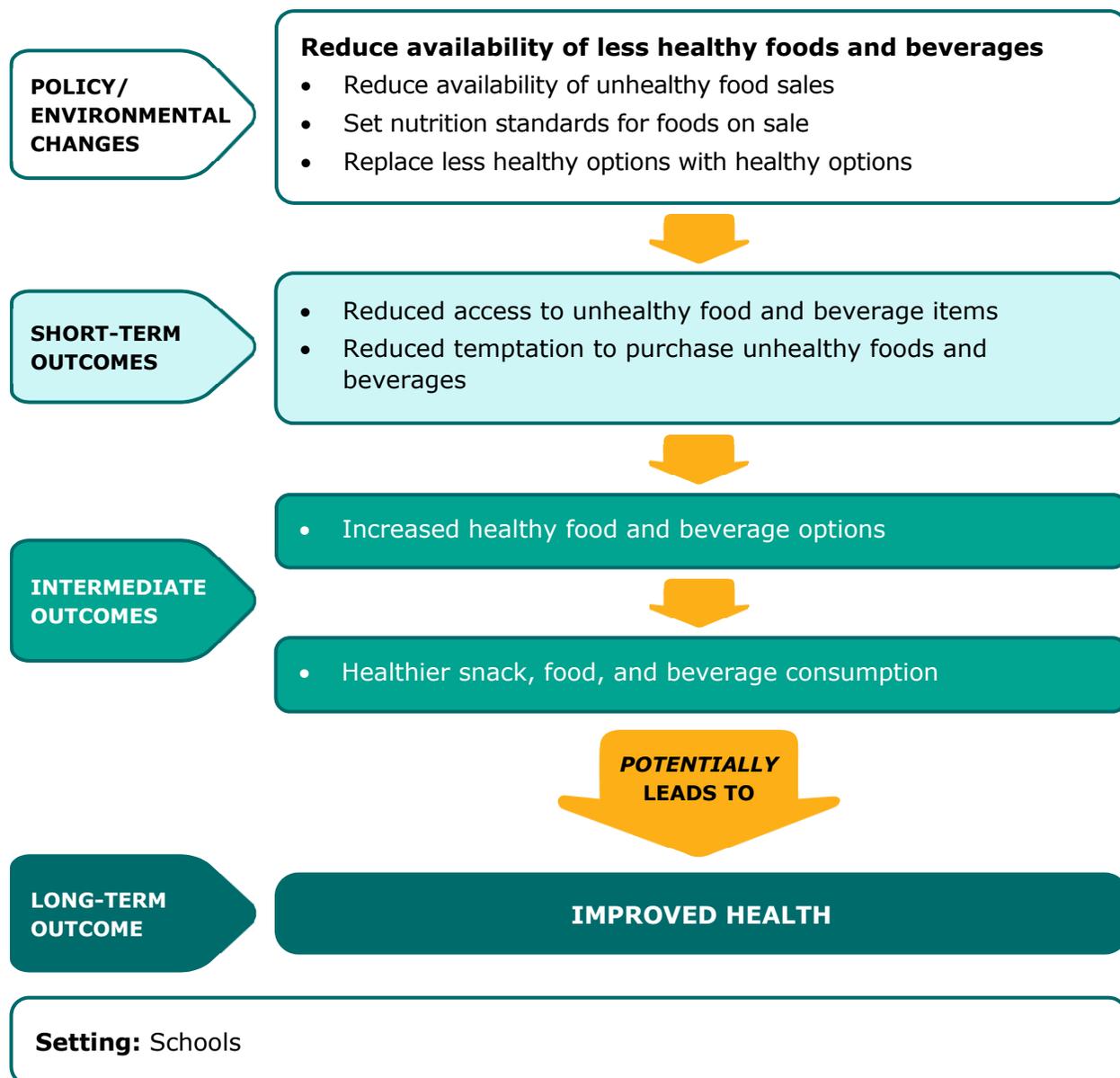
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HEALTHY EATING STRATEGY #6: REDUCE AVAILABILITY OF LESS HEALTHY FOODS AND BEVERAGES



Removing unhealthy items from schools increases the likelihood that children will consume healthier beverages and foods.



HEALTHY EATING STRATEGY #6: REDUCE AVAILABILITY OF LESS HEALTHY FOODS AND BEVERAGES (CONTINUED)

Research has shown that **removing unhealthy items from schools increases the likelihood that children will consume healthier beverages and foods**. An increasing number of schools have adopted nutrition guidelines for competitive foods. Studies show that school food policies that restrict the sale of unhealthy foods and beverages lead to decreased availability of unhealthy food and beverage items and increased availability of healthy options. In turn, this change can result in healthier snack, food, and beverage consumption and can be effective in reducing childhood obesity. A study predicted an 18 percent reduction in prevalence of overweight or obesity in schools that prohibit the sale of unhealthy food during school meals.

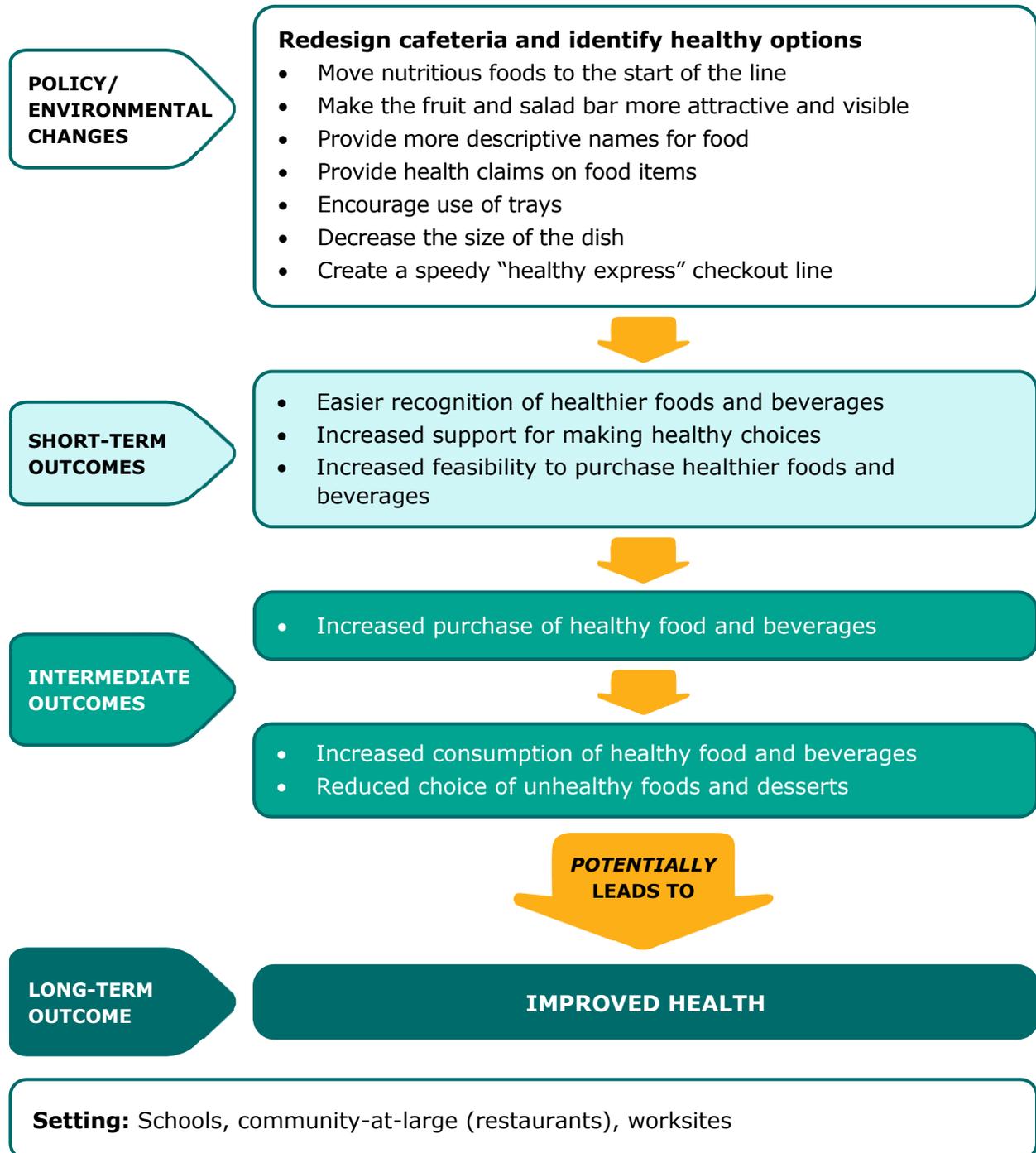
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HEALTHY EATING STRATEGY #7: REDESIGN CAFETERIA AND IDENTIFY HEALTHY OPTIONS



Presenting healthier foods in attractive, informative ways that highlight their health benefits affects people's attitudes about those foods. Changing the cafeteria layout, improving presentation of vegetables and fruits, and identifying healthier items increase consumption of healthy food and beverages.



HEALTHY EATING STRATEGY #7: REDESIGN CAFETERIA AND IDENTIFY HEALTHY OPTIONS (CONTINUED)

Research has found that **changing the cafeteria layout, improving presentation of vegetables and fruits, and identifying healthier items facilitate the selection of healthier items and increase consumption of healthy food and beverages**, especially as part of a multicomponent intervention. For example, placing salad bars in more visible, central locations and putting fruit in a more attractive container led to increased sales. Additional research has shown that favorable nutrition information and health claims on menus result in more favorable attitudes and increased purchase intentions even when the item is not purchased.

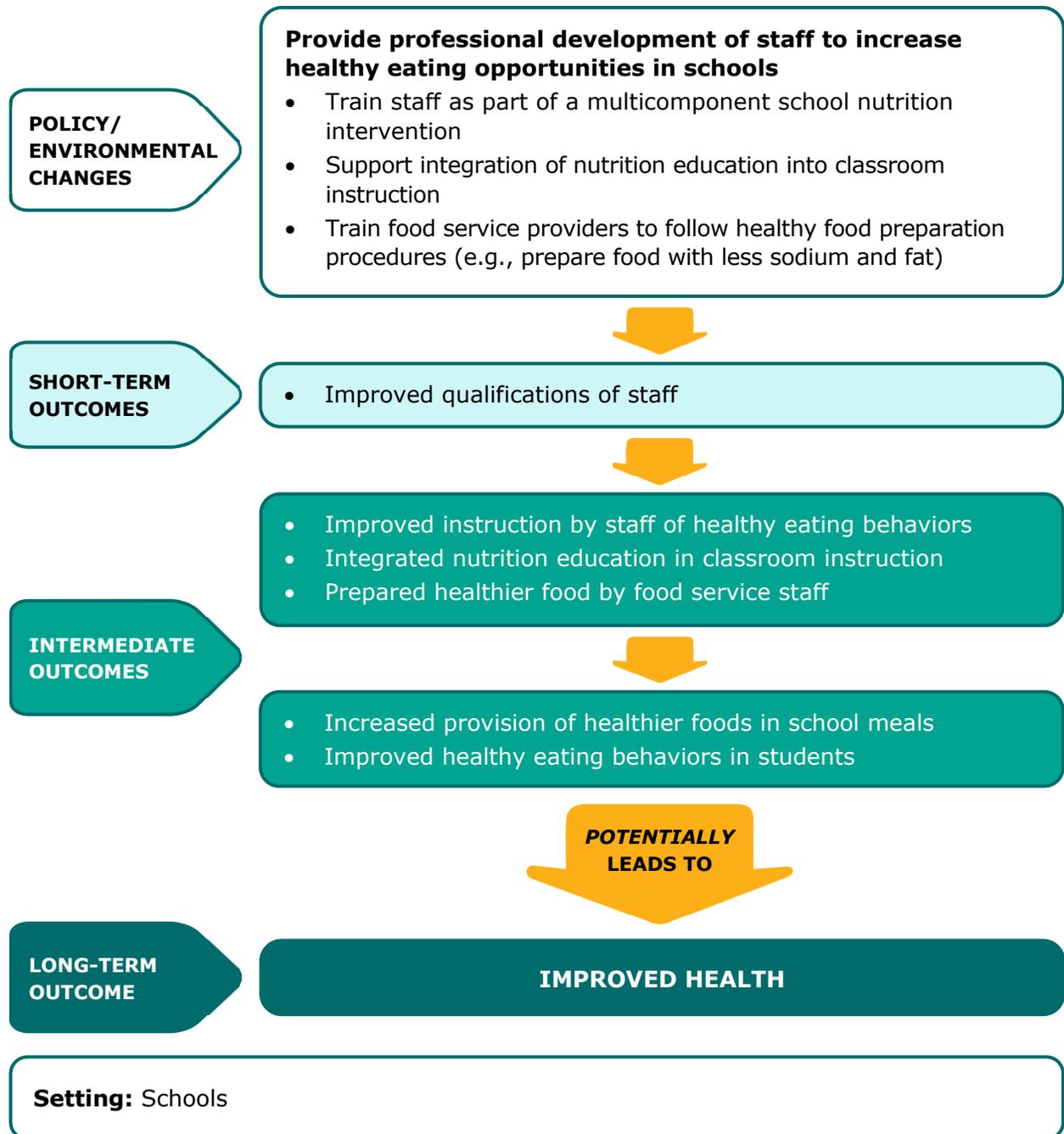
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HEALTHY EATING STRATEGY #8: PROVIDE PROFESSIONAL DEVELOPMENT OF STAFF TO INCREASE HEALTHY EATING OPPORTUNITIES IN SCHOOLS



Improving staff instruction and providing healthier foods in schools can lead to a reduction of overweight and improvements in health. School interventions that include teacher training are effective in improving eating behaviors in students.



HEALTHY EATING STRATEGY #8: PROVIDE PROFESSIONAL DEVELOPMENT OF STAFF TO INCREASE HEALTHY EATING OPPORTUNITIES IN SCHOOLS (CONTINUED)

Evidence suggests that **school interventions that include teacher training are effective in improving eating behaviors in students.** With the training, teachers are able to provide nutrition education as part of their classroom curricula and in turn can influence children's food choices. In addition, interventions that train cooks how to reduce the sodium and fat content of school lunches are particularly effective in reducing children's energy intake from fat. Improved instruction and providing healthier foods in schools can lead to reduction of overweight and improved health.

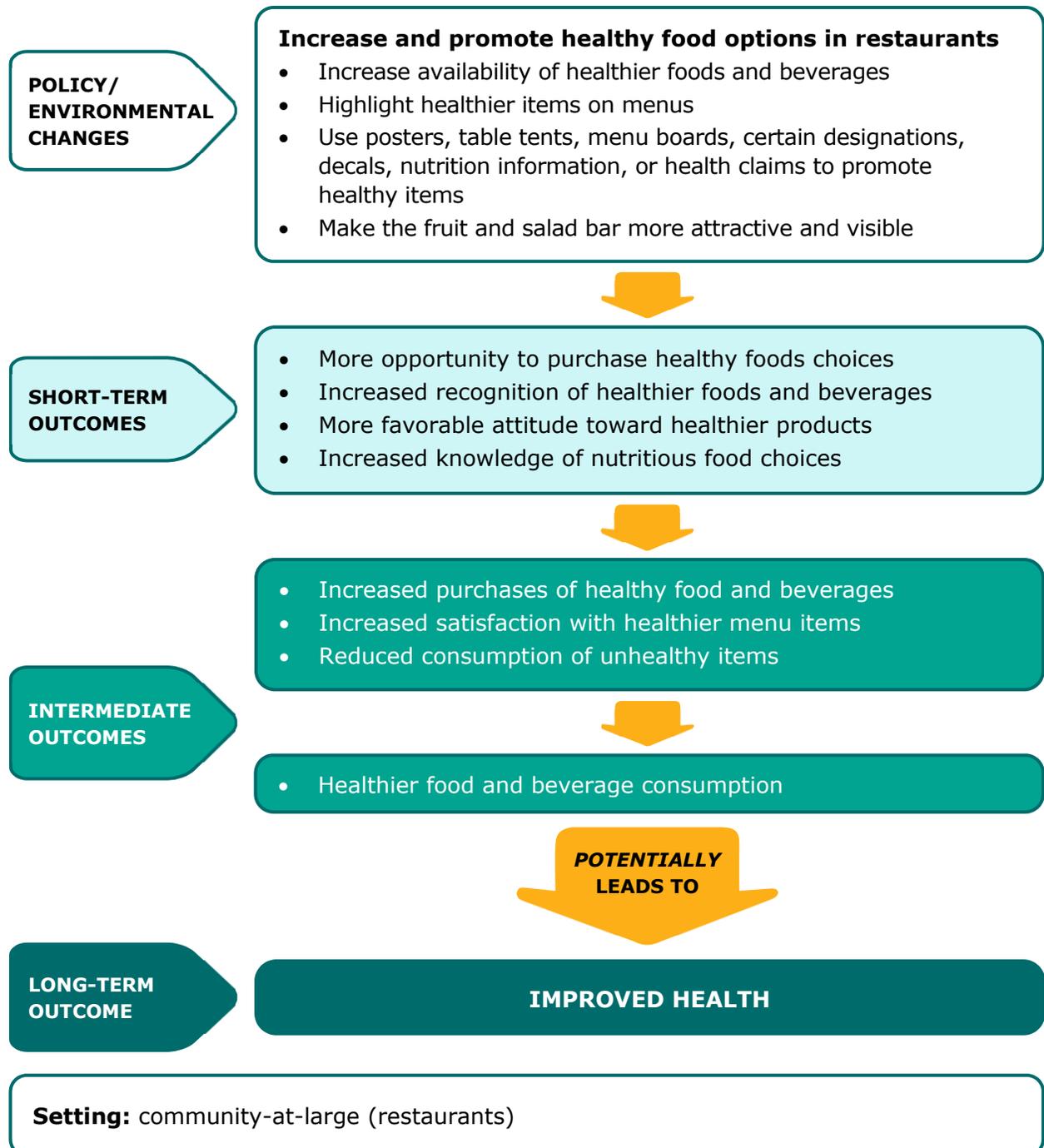
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HEALTHY EATING STRATEGY #9: INCREASE AND PROMOTE HEALTHY FOOD OPTIONS IN RESTAURANTS



Healthier foods make people feel better than unhealthy foods, and people are often more satisfied with healthy menu items than with regular menu items. Offering healthier items on restaurant menus and promoting those items increases the opportunity for healthier dining choices.



HEALTHY EATING STRATEGY #9: INCREASE AND PROMOTE HEALTHY FOOD OPTIONS IN RESTAURANTS (CONTINUED)

Offering healthier items on restaurant menus and promoting those items increases the opportunity for customers to make healthier dining choices. Studies have found that with more availability of healthy choices, the demand for healthier items increases, although this effect was not consistently significant over time across studies. In addition, satisfaction with healthy menu items was significantly higher than satisfaction with regular menu items. Customers who patronized restaurants that promoted healthy options were found to recognize the healthier menu items and increase their consumption of these healthier items at the restaurant.

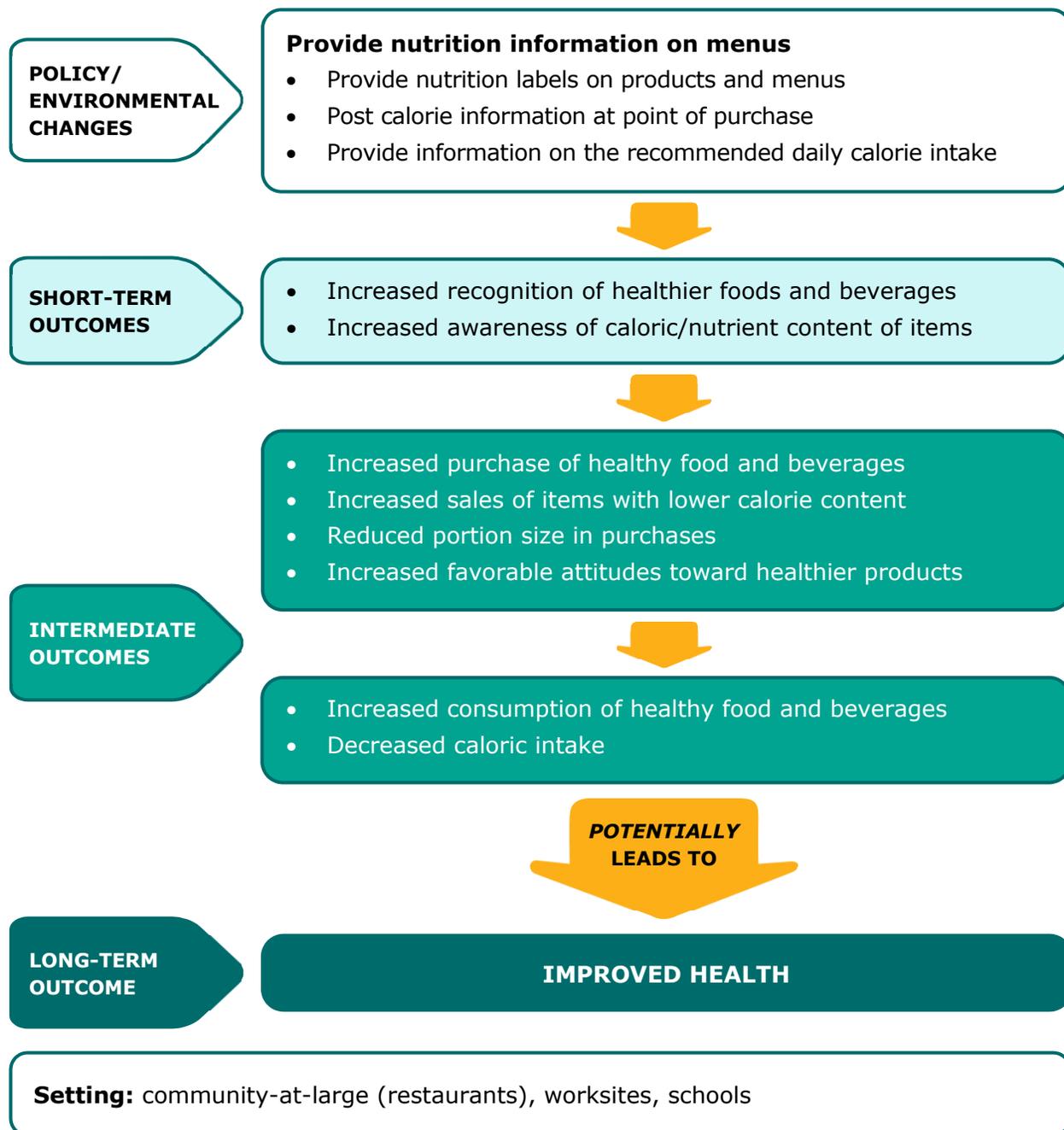
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HEALTHY EATING STRATEGY #10: PROVIDE NUTRITION INFORMATION ON MENUS AND PRODUCTS



People who have access to nutrition information tend to purchase and consume fewer calories. Providing nutrition labeling, including calorie and nutrient contents, has the potential to impact choices and dietary intake.



HEALTHY EATING STRATEGY #10: PROVIDE NUTRITION INFORMATION ON MENUS AND PRODUCTS (CONTINUED)

Providing nutrition labeling including calorie and nutrient contents on products or menus has the potential to impact ordering and dietary intake. Several, but not all, studies in this analysis reported a significant reduction in calories purchased and consumed by people who received menus with calorie information. When there was no reduction in calories purchased, many people still reported that the calorie labeling influenced purchasing behavior. Providing recommended daily caloric requirement also decreased eating later in the day.

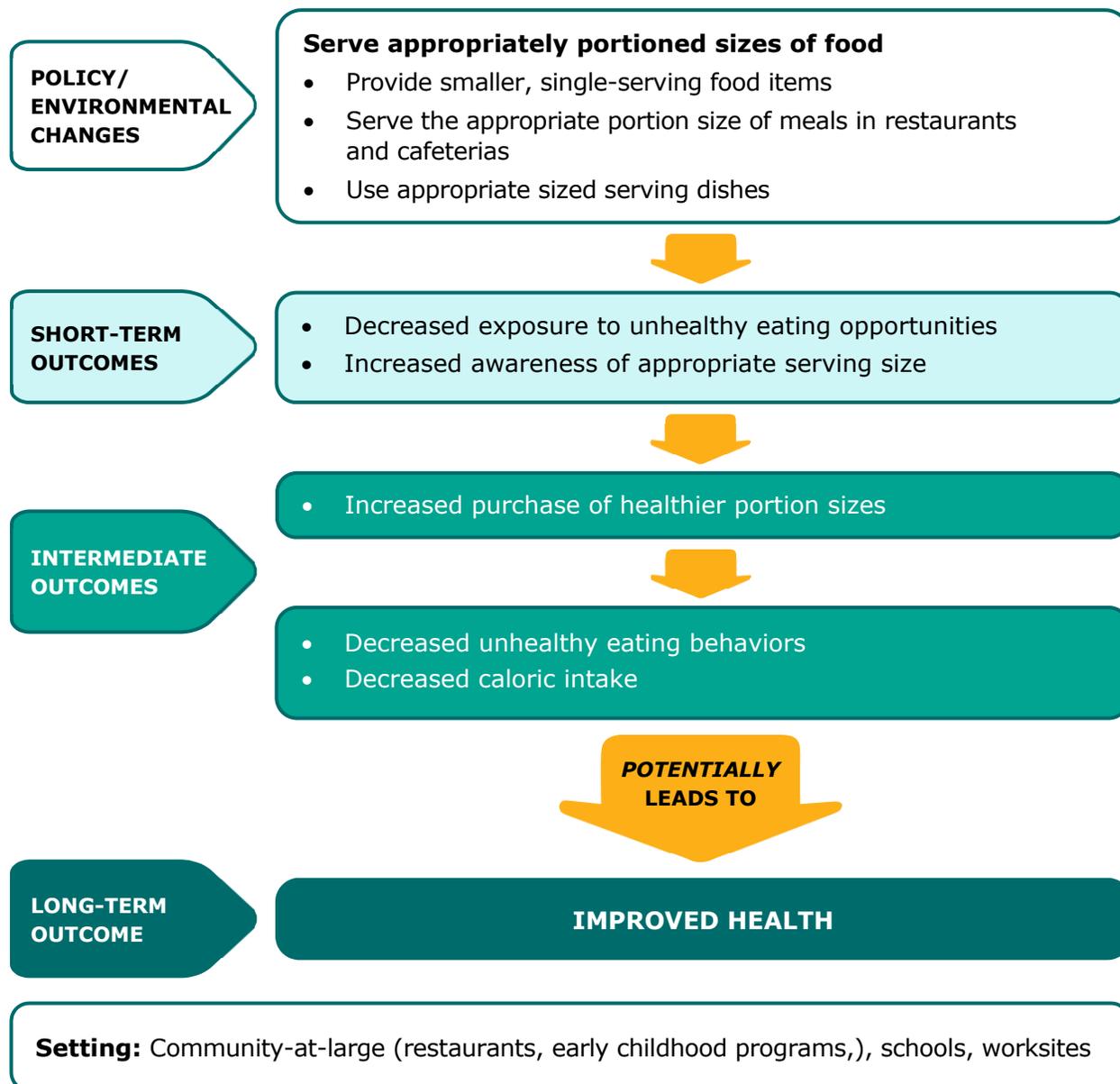
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HEALTHY EATING STRATEGY #11: SERVE APPROPRIATELY PORTIONED SIZES OF FOOD



Portion size significantly influences caloric intake. Changing portion size to a single serving can increase awareness of the appropriate portion size for food and beverage items.



HEALTHY EATING STRATEGY #11: SERVE APPROPRIATELY PORTIONED SIZES OF FOOD (CONTINUED)

Studies have found that **portion size significantly influences caloric intake**. That is, people were more likely to consume more calories when offered larger portion sizes. Furthermore, **changing portion sizes to a single serving** increased awareness of the appropriate portion sizes for food and beverage items. Decreasing the size of the bowl also reduced the serving size of the meal significantly. In an early childhood program setting, children increased their vegetable intake as portion sizes increased when a vegetable was offered as a first course. Changing portion sizes has the potential to lead to significant and sustained impact on food intake.

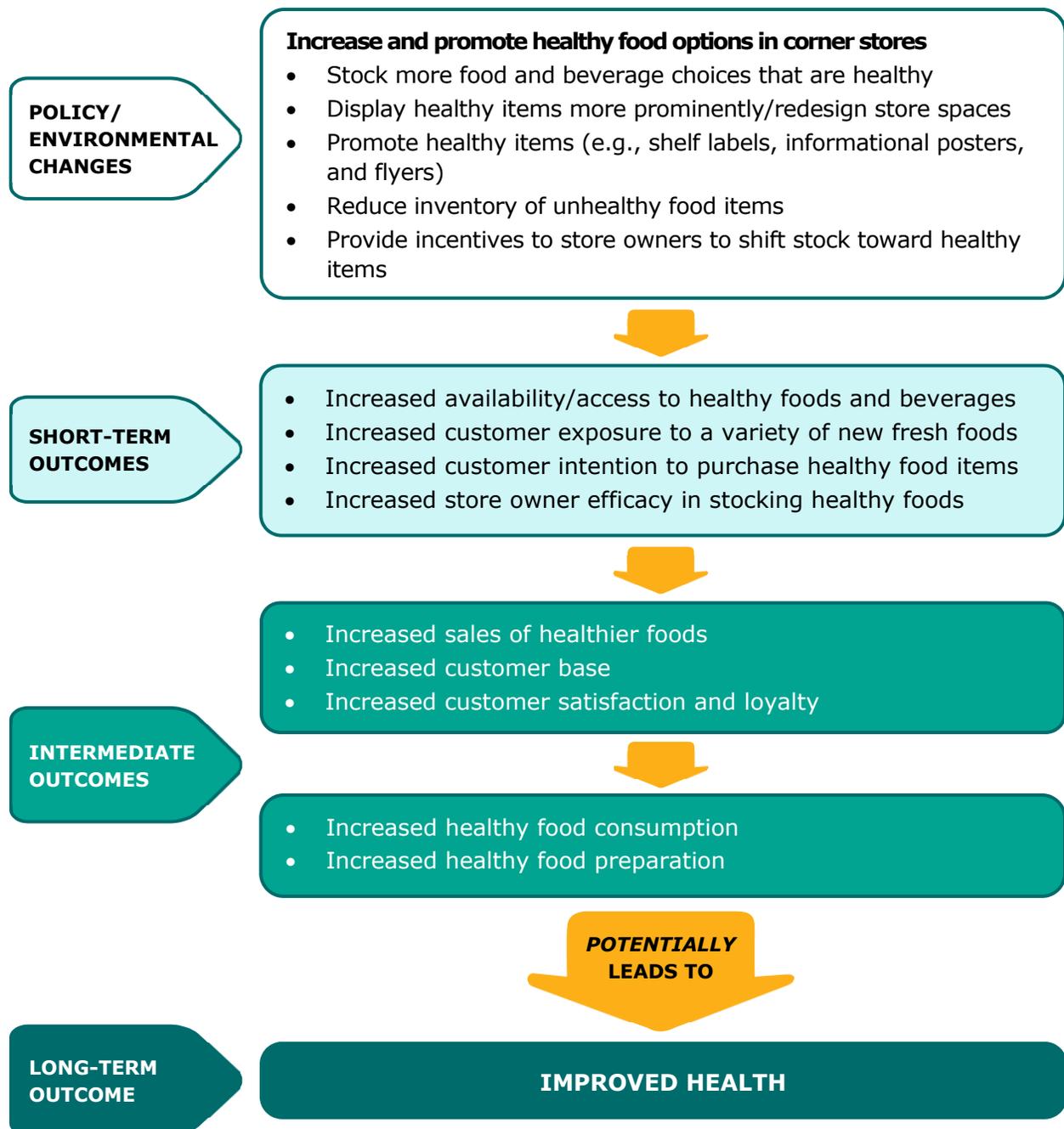
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HEALTHY EATING STRATEGY #12: INCREASE AND PROMOTE HEALTHY FOOD OPTIONS IN CORNER STORES



Corner stores are often the only available sources of food in low-income neighborhoods. Stocking healthy foods and promoting those healthy items through redesign of the store space and promotional signs can increase sales of healthy foods.



Setting: Community at large (corner stores in lower-income neighborhoods)

HEALTHY EATING STRATEGY #12: INCREASE AND PROMOTE HEALTHY FOOD OPTIONS IN CORNER STORES (CONTINUED)

In low-income neighborhoods, corner stores are often the only readily available sources of food for residents. Research has shown that **stocking healthy foods and promoting those healthy items in corner stores through redesign of the store space and promotional signs typically had a significant increase on sales of healthy foods (e.g., produce).**

Furthermore, with training and education, store owners showed increased willingness to stock and sell healthy food and a greater self-efficacy to do so. Interactive nutrition education sessions provided through corner stores increased healthy food intentions and healthy food preparation in customers. Together, these positive changes are expected to improve residents' health.

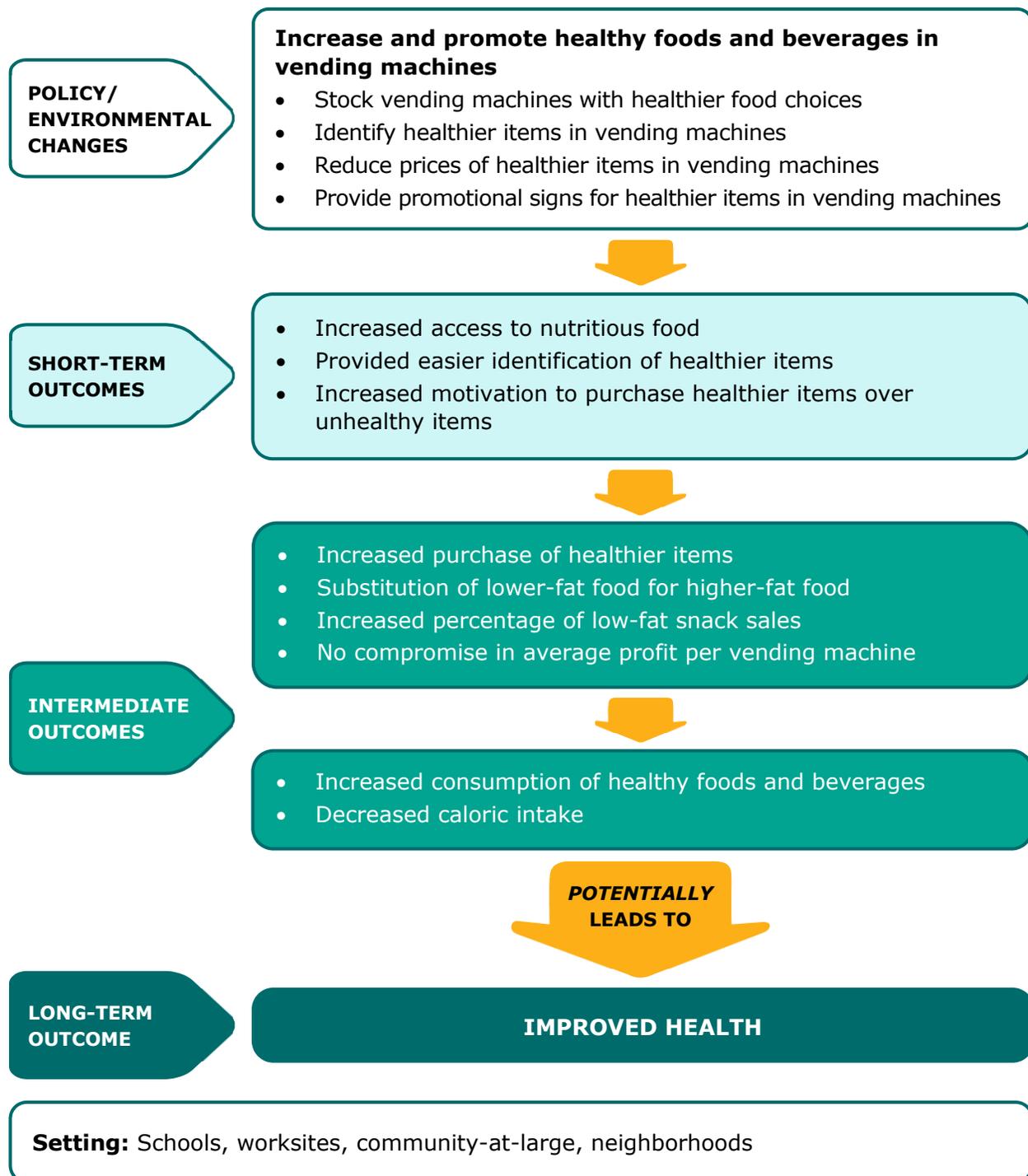
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HEALTHY EATING STRATEGY #13: INCREASE AND PROMOTE HEALTHY FOODS AND BEVERAGES IN VENDING MACHINES



Simple changes in vending machines can impact food choices. Increasing the number of healthy items can increase the sales of healthier foods. Signage promoting healthier choices can have positive effects on those food sales.



HEALTHY EATING STRATEGY #13: INCREASE AND PROMOTE HEALTHY FOODS AND BEVERAGES IN VENDING MACHINES (CONTINUED)

Simple changes in vending machines can impact food choices. Studies have found that **increasing healthy items** in vending machines **increased the sales of healthier food** (e.g., low-fat snacks) in both adolescent and adult populations. **Signage promoting healthier choices** had small but significant **positive effects on those food sales**. Also, reduced prices for healthy items increased sales of these items. The increases in percentage of healthier snack sales were observed without a decrease in vending profit.

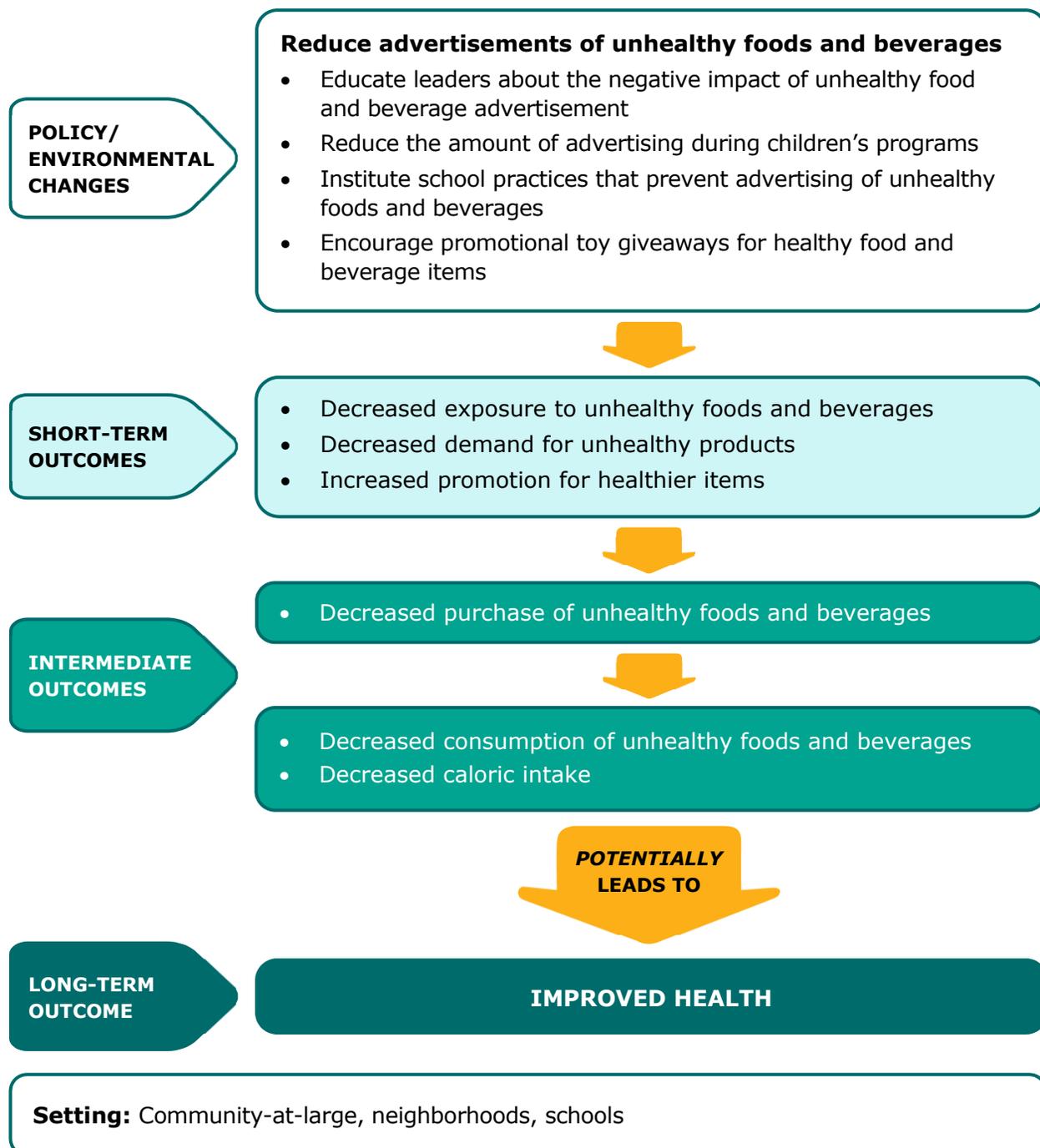
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HEALTHY EATING STRATEGY #14: REDUCE ADVERTISEMENTS OF UNHEALTHY FOODS AND BEVERAGES



Advertising impacts food choices. Studies show a correlation between exposure to food advertising on television and higher caloric intake. Reducing advertising of unhealthy foods has the potential to reduce the prevalence of overweight.



HEALTHY EATING STRATEGY #14: REDUCE ADVERTISEMENTS OF UNHEALTHY FOODS AND BEVERAGES (CONTINUED)

Advertising impacts food choices. Studies show a positive correlation between exposure to food advertising on television and higher caloric intake. How commercial advertising of foods contributes to the prevalence of obesity (directly or indirectly through inactivity) is yet unknown; but **prohibiting advertisement of unhealthy items has the potential to reduce prevalence of overweight** in children and adolescents, particularly males. In addition, a preliminary evaluation of the recent ban on giving toys away with unhealthy food/meals found that the ordinance led to revised menu boards that highlighted which meals met the nutritional requirements.

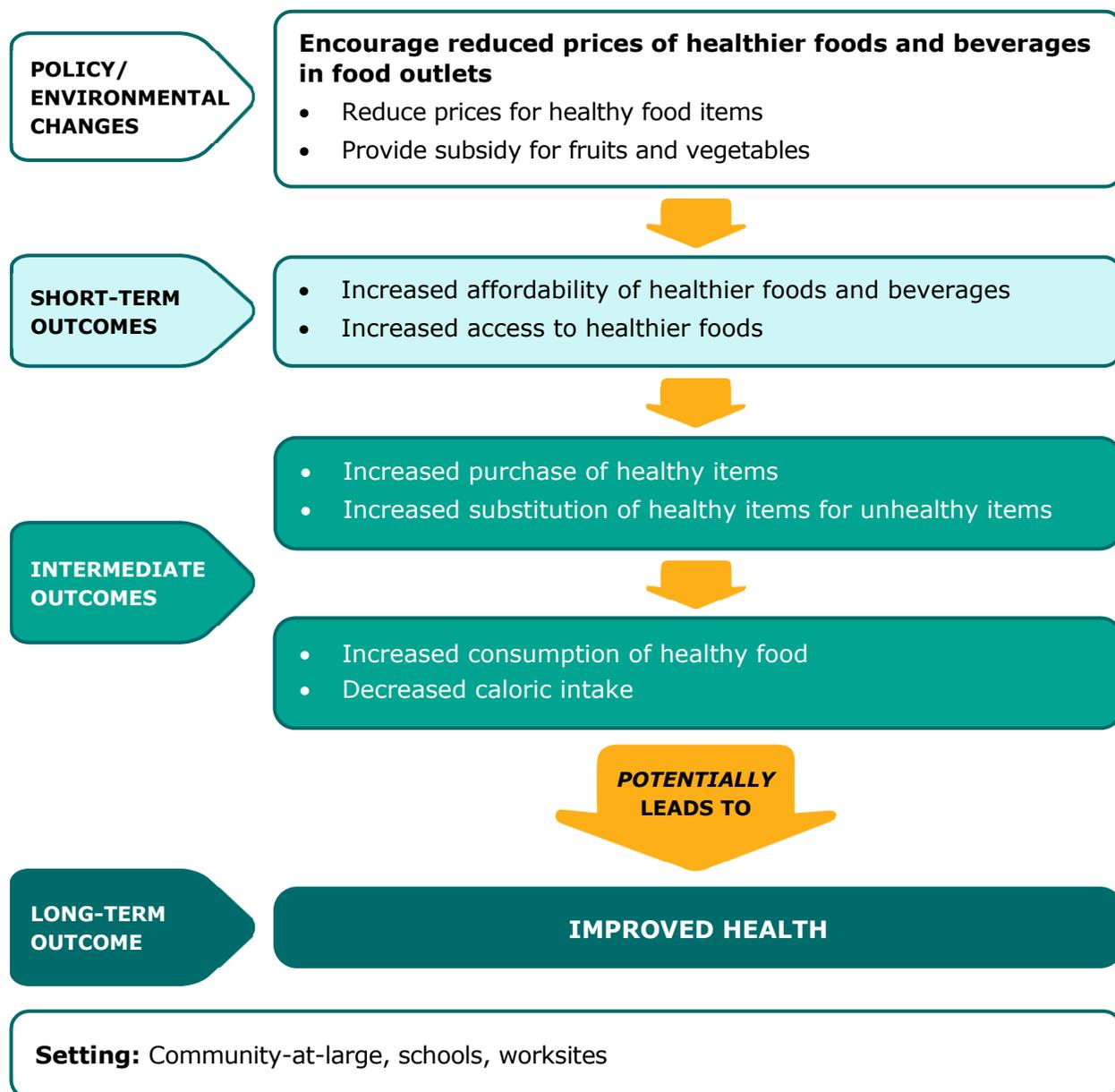
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HEALTHY EATING STRATEGY #15: ENCOURAGE REDUCED PRICES OF HEALTHY FOODS AND BEVERAGES IN FOOD OUTLETS



Reducing the price of healthy foods increases the sales and consumption of those healthy foods. Reducing prices through policy initiatives and subsidies can help to remove cost barriers.



HEALTHY EATING STRATEGY #15: ENCOURAGE REDUCED PRICES OF HEALTHY FOODS AND BEVERAGES IN FOOD OUTLETS (CONTINUED)

Evidence suggests that **price reductions on healthy food** in schools and worksites are an effective strategy to **increase the sales and consumption of the healthy food**—as long as the cost remains reduced. Furthermore, studies found that consumption increased with steeper price discounts. Reducing prices through policy initiatives (e.g., USDA School Breakfast Program, WIC) and subsidies is a recommended approach to **removing cost barriers** to healthy food and increasing vegetable and fruit consumption. For example, a targeted subsidy for vegetables and fruits in the WIC program increased vegetable and fruit intake, which was sustained over time. These changes predict reduced overweight and improved health.

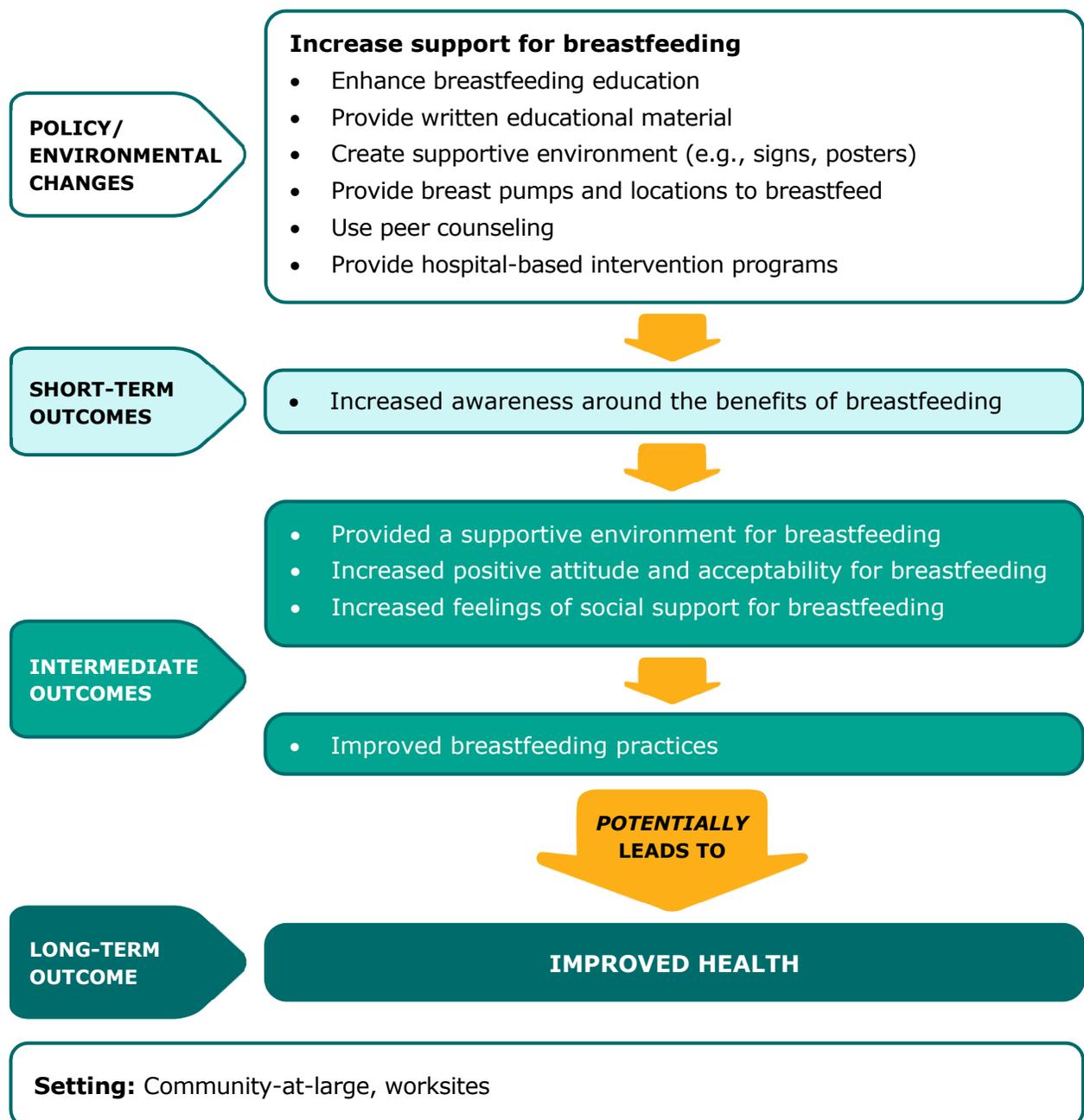
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HEALTHY EATING STRATEGY #16: INCREASE SUPPORT FOR BREASTFEEDING



Breastfed children have shown a reduced risk of overweight and obesity. Increasing awareness and acceptance of breastfeeding through policies that support breastfeeding in the workplace can increase breastfeeding practices.



HEALTHY EATING STRATEGY #16: INCREASE SUPPORT FOR BREASTFEEDING (CONTINUED)

Breastfed children have shown reduced risk of overweight and obesity. Efforts to increase support for breastfeeding programs have the potential to improve breastfeeding practices. Increasing awareness and acceptance of breastfeeding through enhanced support—especially hospital-based educational programs—has been **successful in increasing breastfeeding initiation and duration**, particularly for low-income women. Peer counseling has also been significantly associated with breastfeeding initiation over the first three months post-partum. In contrast, research has shown that providing women discharge packs with free formula has a negative impact on breastfeeding. Policies that support breastfeeding in the workplace will likely remove barriers and extend breastfeeding practices more widely.

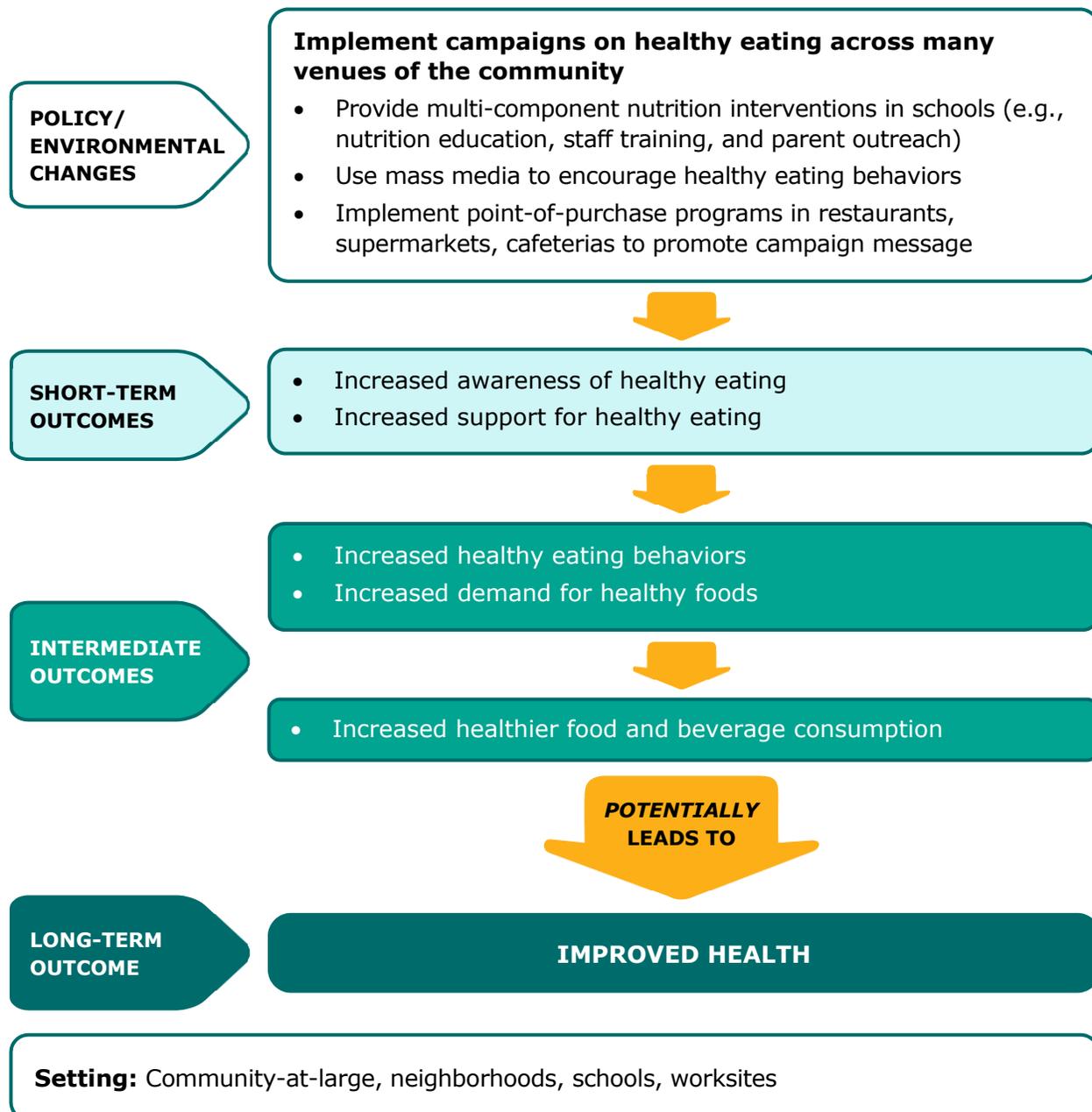
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HEALTHY EATING STRATEGY #17: IMPLEMENT CAMPAIGNS ON HEALTHY EATING ACROSS MANY VENUES OF THE COMMUNITY



Social marketing can be an effective tool to support healthy eating and lead to improved health. Campaigns on healthy eating raise public awareness about healthy eating and increase consumption and sales of healthy foods.



HEALTHY EATING STRATEGY #17: IMPLEMENT CAMPAIGNS ON HEALTHY EATING ACROSS MANY VENUES OF THE COMMUNITY (CONTINUED)

Campaigns on healthy eating have been found to raise public awareness about healthy eating and disease prevention and increase consumption and sales of healthy foods. A nutrition intervention at school has the potential to reduce the incidence of overweight in children. Nationwide health education campaigns have been shown to have a long-term impact (one year post-campaign) on the sale and consumption of healthier food and beverage items. Thus, social marketing can be an effective tool to improve nutrition knowledge, attitudes, and behavior, improving support for healthy eating and eventually leading to improved health.

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IV. INDEX OF STRATEGIES BY VENUE

ACTIVE LIVING STRATEGIES

STRATEGY	PAGE	COMMUNITY-AT-LARGE	NEIGHBORHOOD	SCHOOL	WORK-SITE
#1. Increase Mixed Land Use	6	✓	✓		
#2. Increase Access to Recreational Facilities/Sites	8	✓	✓	✓	
#3. Improve Built Environment to Support Walking	10	✓	✓		
#4. Improve Built Environment to Support Biking	12	✓	✓		
#5. Locate Schools Within Easy Walking Distance of Residential Areas	14	✓	✓	✓	
#6. Require Physical Education in Schools	16			✓	
#7. Increase Physical Activity in Physical Education	18			✓	
#8. Provide Professional Development of Staff to Improve Physical Education Instruction in Schools	20			✓	
#9. Increase Opportunities for Physical Activity Outside of Physical Education	22	✓		✓	
#10. Increase Active Commuting to School	24	✓	✓	✓	
#11. Improve Access to Public Transportation	26	✓			
#12. Improve Traffic Safety through Traffic Calming Measures	28	✓	✓		
#13. Provide Safe Places to Be Physically Active	30	✓	✓	✓	
#14. Provide Opportunities for Physical Activity at the Worksites	32				✓
#15. Improve Worksite Built Environment to Support Physical Activity	34				✓
#16. Use Point-of-decision Prompts to Promote Stair Use	36	✓			✓
#17. Reduce Screen Time	38	✓		✓	
#18. Implement Campaigns on Physical Activity across Many Venues of the Community	40	✓	✓	✓	✓

HEALTHY EATING STRATEGIES

STRATEGY	PAGE	COMMUNITY-AT-LARGE	NEIGHBORHOOD	SCHOOL	WORK-SITE
#1. Increase Participation in Government-Sponsored Nutrition Programs	44	✓		✓	
#2. Improve Mechanisms for Purchasing Foods from Farmers' Markets and Farms	46	✓		✓	
#3. Improve Access to Supermarkets in Underserved Areas	48	✓	✓		
#4. Increase Access to Drinking Water	50	✓		✓	✓
#5. Increase and Promote Healthy Food and Beverage Options in Cafeterias in Schools and Worksites	52			✓	✓
#6. Reduce Availability of Less Healthy Foods and Beverages	54			✓	
#7. Redesign Cafeteria and Identify Healthy Options	56	✓		✓	✓
#8. Provide Professional Development of Staff to Increase Healthy Eating Opportunities in Schools	58			✓	
#9. Increase and Promote Healthy Food Options in Restaurants	60	✓			
#10. Provide Nutrition Information on Menus	62	✓		✓	✓
#11. Serve Appropriately Portioned Sizes of Food	64	✓		✓	✓
#12. Increase and Promote Healthy Food Options in Corner Stores	66	✓	✓		
#13. Increase and Promote Healthy Foods and Beverages in Vending Machines	68	✓	✓	✓	✓
#14. Reduce Advertisements of Unhealthy Foods and Beverages	70	✓	✓	✓	
#15. Encourage Reduced Prices of Healthier Foods and Beverages in Food Outlets	72	✓		✓	✓
#16. Increase Support for Breastfeeding	74	✓			✓
#17. Implement Campaigns on Healthy Eating Across Many Venues of the Community	76	✓	✓	✓	✓

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